MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
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"IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE"

STARTUP PROJECT DEVELOPMENT

PRACTICUM

*Recommended by the Methodological Council of the Igor Sikorsky Kyiv Polytechnic Institute
as a study aid for master's applicants
on the educational programmes: «Economic Analytics», «Economics and Business», «International Economics»
of the specialty 051 Economics*

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The educational guide contains learning objectives for workshops in the discipline «Startup project development»: cases, exercises, practical skills training, as well as questions for self-examination. Attention is paid to an in-depth study of the tools of economic support for the development and implementation of startup projects. Designed for master's degree students studying in the specialty 051 Economics.

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CONTENTS

INTRODUCTION

The discipline «Startup Project Development» is focused on studying the features, acquiring skills and abilities to develop such projects, mastering the methods and tools for their planning, organising the implementation and development of innovative startups on their basis.

The purpose of studying the discipline is to form a system of knowledge and master a set of practical skills in developing startup projects based on innovation, scientific and technical developments, digital technologies; implementing the processes of creating, executing and developing startups based on marketing, organisational design and financial justification through the use of modern tools for project development and implementation and business modelling.

The subject of the discipline is the theoretical foundations, methodological provisions and applied tools for the development and implementation of startup projects, the formation of students' ability to make appropriate analytical decisions in the field of startup economics.

The practicum is designed under the logic of the sequence of startup project development: from the birth of an innovative idea, the development of a business model, the presentation of startups to investors for further implementation, their strategy and scaling.

The implementation of practical training tasks allows you to master several program competencies (taking into account the educational and professional programmes «Economic Analytics», «Economics and Business», «International Economics» and the Standard of Higher Education of Ukraine of the second (master's) level, field of knowledge 05 Social and Behavioural Sciences, speciality 051 Economics):

- GC 1 – an ability to generate new ideas (creativity);
- GC 3 – an ability to inspire and motivate others toward a common goal;
- GC 5 – an ability to work in a team;
- GC 6 – an ability to create and manage projects;
- PC 9 – an ability to apply a scientific approach to the formation and implementation of effective projects in the socio-economic sphere;

- PC 11 – an ability to design and develop projects in the field of economics, ensuring the information, methodological, material, financial, and staffing support.

Solving educational tasks and performing practical skills training in conjunction with mastering theoretical material will allow higher education students to acquire the following programme learning outcomes:

- PLO 4 – develop socio-economic projects and an integrated action plan for their implementation, taking into account the objectives, potential socio-economic impacts, risks, and various restrictions, including those related to law and resources;
- PLO 6 – evaluate their performance and demonstrate good leadership, team management, and teamwork skills;
- PLO 7 – choose the best practices in economic activity management and justify recommended solutions based on the relevant data and applied scientific research;
- PLO 15 – organize the development and realization of socioeconomic projects with consideration to information, methodological, material, financial, and staffing support.

WORKSHOP FOR TOPIC 1

STARTUP AS A FORM OF INNOVATIVE BUSINESS

CONTENTS OF PRACTICAL LESSON

① Case for discussion: the development of the Oculus project according to the scheme of a startup
② Exercise: determining whether projects belong to startups
③ Training of practical skills: drawing up an information map of a startup project

1 CASE

DEVELOPMENT OF THE OCULUS PROJECT ACCORDING TO THE STARTUP SCHEME [1]

The life path of Oculus as an independent company was short but incredibly rich. Its founder, Palmer Lucky, simply wanted to make a more advanced VR headset and launched a fundraiser on Kickstarter. 601 days later, Oculus was acquired by Facebook.

https://www.freepik.com

Stage 1: Pre-seed. Palmer Lucky was about 15 years old when he was fascinated by the concept of virtual reality. By day he attended college and by night he was the founder and administrator of ModRetro, a community dedicated to modding vintage game consoles. Take the N64 and make it portable, fit the Xbox in a case half the size of the original...etc. If video games have taught gamers anything, it's how to collect—the rarer the better. Palmer enjoyed collecting early versions of VR headsets. In the late 1980s and 1990s, dozens of companies tried to achieve commercial success with these devices. They all failed. Some were very expensive, but most simply did not work. All of them were ahead of their time: most home PCs were not powerful enough and the components were too expensive.

Palmer looked for headsets for the collection at sales of bankrupt companies, government auctions and personally came to the seller to avoid paying for shipping. That's how he managed to get a headset that once cost almost $100,000 for less than $100. According to his estimates, he managed to collect the largest private collection of VR headsets in the world. Around the age of 16, Palmer got a new hobby. Disappointed with the headsets in his collection, he set out to create something better. He assembled prototypes from existing devices, modified the designs of other enthusiasts, built something from scratch from parts. At that time, he did not yet understand that he was creating his own company. He attended California State University, Long Beach, taking journalism classes while working as an engineer in the university's lab, where he experimented with VR and head-up displays.

Stage 2: Seed. You never know who you might meet while browsing the Internet. As far as Palmer is concerned, a chance virtual meeting became decisive. From «crazy brains putting together VR glasses in a garage» his company has grown into a unit that the entire industry has been following. On one of the forums, Palmer Lucky began to communicate with John Carmack himself, the co-founder of id Software, the main programmer of Doom, Wolfenstein 3D and Quake. Through a stroke of luck, Carmack himself thought about making VR glasses by modifying a headset he had. Palmer told him about his prototypes. It was probably the best decision he could have made. A few months later, Carmack was at E3 showing off one of Lucky's prototypes to everyone. It was not just a project «for the soul». The internet has been buzzing about «Carmack's new VR project» even though he'll only be joining the company for a year. Within weeks, Palmer dropped out of college to start a company. In June 2012, Oculus VR appeared. Palmer first thought about going on Kickstarter long before meeting Carmack. He hoped to find about 100 enthusiasts who would support his project and help launch the virtual reality headset.

Stage 3: Prototype. The first fruits of the painstaking study of the technology were several Rift prototypes. Palmer shared them on the MTBS3D forum, as well as research results.

Stage 4: Alpha version. There was a meeting with Carmack. The project was supported by such giants as Gabe Newell from Valve, and thoughts of selling 100 headsets were put to rest.

Stage 5: Closed Beta. On August 1, 2012, Oculus launched a crowdfunding campaign. For a project with such an ambitious goal - to revive an entire genre and succeed where many failed ten years ago - they set a rather modest goal of $250,000. It was even less than the market price of some of the sets in Palmer's collection. In total, in 24 hours, it was possible to collect $670,000 from 2,750 people. In three days, the amount exceeded $ 1 million. For reference: at the time when the collection on

Kickstarter ended, Oculus had 10 employees. At the time of Facebook's sale, there were 100 of them.

The first Oculus device was not intended to be sold in stores. Developer Kit 1 (Oculus Rift DK1) allowed developers and early adopters to learn about virtual reality and inspired them to create products for it. The developer kit was the first demonstration of Oculus' potential. At most, the small $350 headset was already better than everything that came before it but she was not perfect. Users often complained that the headset caused seasickness. There were many reasons — low-resolution screen, simple app, lack of location tracking. Despite the shortcomings, Oculus managed to sell all the headsets available. The first batch was about 65,000. Sure, they could make another batch, but that meant they would have to waste time finding components for an already outdated product. In just a few weeks, they introduced the second generation.

Stage 6: Open Beta. On March 19, 2014, just one week before the deal with Facebook, Oculus began accepting orders for the second developer kit. It still wasn't quite the product it was intended to sell to consumers, but it was better than before. The screen resolution was increased from 640×800 to 960×1080, and the following measures were taken to combat seasickness:

- LCDs were replaced by OLEDs, which were brighter and at the same time did not blur movements so much,
- headset latency (the time between head movement and the reaction of the content on the screen) was reduced from 60 ms to 3 ms,
- added completely black frames that were shown too fast to be visible to the human eye, and made the movements smoother.

In addition, the headset had an external camera for the first time, which made it possible to track not only the tilt of the head but also its location. Now technology made it possible to bend down and read the text, to look around a corner or an edge.

A year has hardly passed between the release of the first and second versions of the Oculus Dev Kit, but a lot has happened in that time.

- At the end of March 2013, Oculus received support from two major video game development engines: Unity gave all Oculus developers free access to its pro-level engine for 4 months, and Epic Games began distributing a new version of the Unreal engine with Oculus support to anyone with a developer kit.
- On June 17, Oculus attracted the first investment from VC. They raised $16 million from Spark Capital and Matrix Partners.

- Just 6 months after the first round, Oculus raised funds again in December 2013 - this time $75 million from Andreessen Horowitz, Spark Capital, Matrix Partners and Formation 8.
- Valve, one of the most famous companies in the world of games, has promised to share its developments in the field of VR with Oculus. A few weeks later, one of Valve's leading virtual reality researchers joined the Oculus team.

In 2014, Facebook acquired Oculus. The company was originally aimed at video game enthusiasts (the original Oculus VR Kickstarter page stated, «Developed by gamers for gamers»). However, Mark Zuckerberg suggested that the potential of the technology is much broader.

Gamers reacted negatively to the news, but later the company managed to reproduce the success. Facebook saw the potential of VR for existing services. The deal included $400 million in cash and $1.6 billion in stock.

QUESTIONS FOR DISCUSSION:

1. Describe the development stages of the Oculus startup.
2. What key actions did the startup take at each stage that led to its development?
3. Provide a forecast for the development of the startup in the absence of an agreement with Facebook. Would a startup develop into its enterprise?

2 EXERCISES

BELONGING TO STARTUP PROJECTS [2; 3; 4]

TASK

Determine which of the following projects belong to startups

https://www.freepik.com

Preply is an international educational platform that allows you to find online tutors in various subjects around the world—founded in Kyiv in 2013. In 2021, it attracted $110

million in investments. It has offices in Kyiv, Barcelona, New York and other cities. More than 35,000 tutors from 150 countries provide lessons for 1.5 million students.

Wireless charging with a range of several meters. The usual charging of mobile devices, which binds their owners to a specific month, will soon lose its relevance. The fact is that in 2021, Xiaomi and Motorola introduced wireless chargers that work remotely. At the beginning of the year, Xiaomi announced a new Air Charge wireless charging system, which is capable of simultaneously charging several devices at a distance of up to several meters. With the help of five built-in antennas, the device will determine the position of mobile phones in the room. Air Charge then charges it by transmitting millimetre waves through 144 built-in antennas. To receive the signal, Xiaomi devices are equipped with two sensors - a beacon for determining the position and an antenna with a grid for receiving waves and converting them. It will be possible to charge smartphones, fitness bracelets and smart watches with the help of the device. The company has not yet announced the release dates of any products using this technology.

Fisheye lens. This year, Canon unveiled a dual-lens RF-mount fisheye lens that will be part of a brand-new system called EOS VR. It will allow transforming the production of virtual and augmented reality more easily than existing capture systems, providing the quality of a full-frame mirrorless camera. The $1,999 RF5.2mm F2.8 L Dual Fisheye Manual Lens is designed to mount on the 8K-capable Canon EOS R5 camera. The two new lenses are located approximately 60mm apart, matching the distance between human pupils and allowing for comfortable VR and AR capture. The lens only works with the Canon EOS R5 camera. When shooting, it projects two circular images onto the 45-megapixel camera sensor. The lens provides 190-degree capture, allowing you to create stereoscopic 3D shots with a 180-degree field of view or photos with a resolution of up to 8192x4096 (8K) for AR or VR applications.

People.ai is a cloud platform that uses artificial intelligence to automate and optimize customer-oriented processes in the enterprise. Focus on CRM systems. The founders are Ukrainians Oleg Roginskyi and Oleksandr Lyakh. Opened in 2015 in San Francisco. Attracted $182 million in investments. Customers include Zoom, Slack, Okta, Autodesk, Dell and others.

Liki24 is an online medicine delivery service in Ukraine. It cooperates with pharmacies and allows you to order the necessary drugs from your smartphone with home delivery. The company was founded in 2018 in Kyiv and operates in many cities in Ukraine. Received $5 million in investment. More than 700 partner pharmacies are registered on the service.

Small wind power plants. American company Flower Turbines aims to make small wind farms a leading player in the green energy industry and thus make green energy

affordable for all. The company claims that the turbines they have developed are better than traditional windmills: they do not pose a danger to birds and other wild animals, especially in urban environments. In addition, they create low-frequency noise that is imperceptible to humans.

Ecoisme is a smart energy consumption monitor based on artificial intelligence. Analyzes data from meters, detects parasitic consumers, saves up to 30% of electricity consumption. The hardware and software complex Ecoisme was created in 2015 in Ukraine. In 2021, it attracted $5.2 million in investments.

Craigslist. Craigslist (the American equivalent of Avito) is immortal. Although it cannot be included in the list of top tech companies, it is still worth saying a few words about the platform, which has enjoyed great success in the American market for 20 years. But where and when did it all begin? In the early 1990s, Craig Newmark, an IBM employee who had just moved to San Francisco, compiled an email list for local events (Craig's List, you know, right?). Craig thought the list would help him meet new people. The idea was picked up, the list became popular. People began to use it not only for meetings. In the future, this inspired Craig, and he quit his job to develop Craigslist. Today this company is worth $1 billion.

A train that accelerates to 1000 kilometres per hour. In January, China's Southwest Jiaotong University and the China Railway Rolling Stock Corporation unveiled «the world's first high-temperature superconducting high-speed Maglev engineering prototype» The design speed of the train is 620 km/h. Combined with vacuum tube technology, the HTS Maglev train can reach speeds of 1,000 km/h. On the same day, a 165-meter line was launched to test the new train. «HTS (high-temperature superconducting technology) technology can make the train move without electricity, it can be operated with just one hand» said Deng Zigang, deputy director of the university's high-speed transportation research centre. At the presentation site, the reporter managed to move a 12-ton locomotive with one finger.

Oculus. There are many stories about how famous companies started their journey in garages: Apple, Google, Amazon, HP. And Oculus. After a long day at Cal State University's Mixed Reality Lab (MXR), founder Palmer Luckey headed to the garage to try to build the future of virtual reality. After one of the most successful Kickstarter campaigns, Lucky quit his job, dropped out of school, and sold Oculus to Facebook for $2.4 billion, $400 million in real money, and $2 billion in Facebook stock (before they even had a product).

VR gloves. The company Meta (Facebook) is known for its initiatives related to the creation of a meta-universe in which AR and VR technologies can be used. In November, Reality Labs, a research unit owned by Meta, presented the results of a seven-year development of a «tactile» glove that provides almost real sensations

when touching or stroking virtual objects and surfaces. The prototype is a glove with about 15 ribbed inflatable plastic pads. They are positioned to match the structure of the user's palm and fingers. The glove also acts as a virtual reality controller. On its back, there are small white markers that allow cameras to track the movement of fingers in space, as well as internal sensors that record their bending. When the user puts on the glove and enters the virtual or augmented reality mode, the control system adjusts the level of inflation of the pads, creating pressure on different parts of the hand. Thus, touch effects are reproduced. They are accompanied by visual and sound signals, creating the illusion of physical contact. Reality Labs is introducing gloves as one of several control methods for future glasses and headsets, alongside lighter solutions based on electromyography, or EMG, a system that reads nerve signals in the hand and converts them into digital input.

3 AINING OF PRACTICAL SKILLS

COMPILATION OF A CHECKLIST OF STARTUP PROJECT TASKS [5]

TASK

Make and process a checklist tasks in the following sequence:

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1. Schedule a date to complete and complete each task on the task checklist
2. Check the list of tasks for the necessity of tasks. If there are unnecessary ones, cross them out.
3. In the Notes column, list comments and other information related to the tasks

Task checklist [5]

Task	Notes	Deadline	Performance note
1	2	3	4
Choose a startup direction based on your skills and interests			☐
Research a startup idea			☐
Research your competitors			☐
Determine the presence of patents for the selected idea			☐

Continuation

1	2	3	4
Create a business plan			☐
Create a marketing plan			☐
Choose a startup name			☐
Confirm your right to use the chosen name			☐
Check if the project name is available as a domain name			☐
Register your startup name			☐
Register a startup domain name even if you're not ready to use it yet			☐
Agree with startup partners			☐
Obtain the necessary licenses and permits			☐
Register an intellectual property right			☐
Apply for a patent or provisional patent for inventions			☐
Open a bank account for the startup			☐
Create an initial budget			☐
Determine the material resources necessary for the implementation of the startup			☐
Determine ways to attract investment			☐
Register a startup on a crowdfunding platform			☐
Create a list of mass events (exhibitions, conferences, hackathons, etc.) where you can present your startup			☐
Create and configure a startup website			☐
Create and customize social media pages for business			☐
Create a presentation for investors			☐
Start building a customer list based on your newsletter and promotional email permissions			☐
Send out promotional releases			☐
Determine which methods are best for promoting the startup			☐
Plan and implement tactics to promote the startup to the market			☐
Think of ways to scale your startup			☐
Other:			☐

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WORKSHOP FOR TOPIC 2

BUSINESS IDEA AND VIABLE PRODUCT OF A STARTUP PROJECT

CONTENTS OF PRACTICAL LESSON

①Exercise:
- testing a startup business idea:
- testing a minimally viable innovative product

②Creative task: building a canvas of a value proposition based on a startup product idea

③Practical skills training: formation of a minimally viable innovative product

1 EXERCISES

1 TESTING THE STARTUP BUSINESS IDEA [1; 2]

TASK

Determine the methods that were used to test the presented business ideas and their suitability for obtaining the expected results of the development of startups:

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1. SEGWAY electric scooters. Segway is an electric two-wheeled vehicle that maintains balance and allows you to move while standing. The idea of an electric scooter came from the famous American inventor and entrepreneur Dean Kamen while testing medical wheelchairs with electric motors and a gyroscope system that allowed him to maintain balance. The Segway company was confident that everyone would ride a Segway instead of a car. Due to fears that the idea would be stolen, they

worked on the project behind closed doors - they did not study consumer opinion but brought a finished product to the market.

A major venture capitalist, John Doerr, believed that Segway's revenue would quickly exceed USD 1 billion, and Dean Kamen himself was confident that by the end of 2012, the company would be selling 10 thousand Segways per week. A factory was built, and the company was preparing for global success. However, in 5 years, only 24,000 units were sold. The product turned out to be niche and did not have the expected commercial success. It is used mainly on excursions, in shopping malls and on golf courses. The thing is that Segway did not have an MVP phase, so it was not discovered that it was a niche product.

2. An innovative bike light from GOTHAM BICYCLE DEFENSE. Two American cyclists, recent university graduates, were constantly faced with the problem of having their bike lights stolen. So they turned the problem into a business: they came up with the Theft-Resistant Bike Light, a flashlight with a «hard to steal» feature. There were no funds for production and no confidence that the product would be in demand. So the founders started asking cyclists on the street and on specialised websites which design they liked best. Based on the sketch that people chose most often, they made a prototype on a 3D printer and asked the target audience: would you like to buy such a lantern? The feedback from thousands of cyclists showed that the lantern needed to be smaller. In addition, people did not understand how it would look in real size. The authors of the project reduced the sample and showed consumers another prototype - this test confirmed that they liked the product and were ready to buy it.

Along with testing the prototype, the founders blogged, created a Landing Page, published in specialised media and communities, and posted videos on YouTube about how to create a bike light that is difficult to steal. Working with these information channels made the project popular and helped them find future customers. Slava Mann and his colleagues then published the project on Kickstarter crowdfunding. The required amount was raised in 15 hours, and over the remaining 40 days, it approached $100,000. Thus, the funds for the production of the product were raised from future consumers. Only then did the startupers write a business plan and outsource production.

3. DROPBOX file sharing service. Dropbox founder Drew Houston understood that it was difficult to raise funding unless there was proof that people needed the product. And the product was completely raw. Drew could only show a prototype that worked between two computers. He did just that: he recorded a 3-minute video about how Dropbox works. The next day after the video was published, the number of requests for beta testing increased to 75 thousand. People understood that the project was still in development, but they were eager to try it. The video received 12 thousand positive

reviews, as well as ideas, questions, and suggestions for improvement. These figures allowed Drew to raise funds to create a commercial product.

After a while, the company faced a new challenge. At first, the founders used the traditional model of service promotion and contextual advertising. But it turned out that it cost $291 to attract one paid customer. Compared to the price of the product - $99. The study of customers, meeting and communicating with them, made it possible to find out that customers most often learned about Dropbox from friends, and the information spread virally. The solution was found in a referral programme that encouraged people to recommend the service. Within 30 days of the programme's introduction, users sent out 2.8 million invitations themselves, and the number of registrations increased by 60%. Another distribution tool became one of the product's features - 20% of registrations occur when users share folders and files. Today, Dropbox doesn't spend money on advertising but rather grows through an incentivised referral programme. The company takes ideas for product improvement from feedback, suggestions and user votes on its Votebox service.

4. FOOD ON THE TABLE, an online service for economical cooking. Food on the Table, a paid ($10) online service, helps to significantly save on food purchases by offering recipes with products that are discounted in stores specified by the user. At the idea stage, the project's author went shopping and talked to housewives to find out what they buy and how they buy it. That is how he found his first client, for whom he found out about discounts in stores and developed recipes manually according to his preferences. He spent time that was not worth the $10 fee, but he managed to figure out how to arrange the service so that customers were satisfied. With the help of this MVP test, the startup made sure that many users were ready to pay for such a service regularly. The next step was to automate the process. With the investor's money, he developed an online platform, and the cost of customer service dropped to almost zero. It is now a successful project.

5. SKYPE messengers. Skype's business model has revolutionised the telecoms market. The giants of this market spent huge amounts of money on creating and maintaining infrastructure: cell towers and wire lines. The creators of Skype realised that they needed to use the existing infrastructure and focused on software development. This resulted in a fundamentally different, revolutionary business model that has brought Skype international success.

2 TESTING THE MINIMUM VIABLE PRODUCT [3]

TASK

Determine how to test the minimum viable product for viability (simulation, anaesthetic, manual/automated testing) and what other methods should be used:

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1. Dropbox. Dropbox CEO Drew Houston knew that many companies provide cloud storage services. He decided to create an explanatory video that would describe the benefits of the service. Overnight, the number of views exceeded 70 thousand, and it was a success. Today, Dropbox is the industry leader.

2. Amazon. Before launching Amazon, Jeff Bezos used either Concierge or The Wizard of Oz. He collected orders, bought books, and sent them to customers. The large number of orders was a confirmation that people needed this service. So he added more books to his website and bought warehouses.

3. Airbnb. Before launching this world-famous app, the owners rented their apartments through the website. The number of bookings and reviews made them convinced that people needed such services and were happy to spend the night in someone else's home. Today, travellers from all over the world use this service and generate income.

4. Houseparty. Houseparty, a social media app for personal communication, is a great illustration of how products evolve gradually. They needed methods to increase user engagement as their platform expanded to become a tool for communicating with individuals and small groups. To learn more about the areas of the app where users were experiencing the most difficulty, Houseparty used Taplytics to conduct A/B tests and usage experiments. Through their experiments, Houseparty gained a better understanding of what was causing user engagement to decline and identified opportunities to change the registration process. By making minor changes to the registration process, they saw an increase in the following important metrics of app usage. A 15% increase in user contact permission. A 9% increase in push notification opt-ins.

5. Netflix. Netflix's original business model was DVD rental services. As one of the most famous OTT platforms today, Netflix's transition to streaming media is a great

illustration of how businesses can adapt to market needs. And their subsequent shift from licensing existing media to creating original content demonstrates a deep understanding of what users expect from an OTT streaming service. Throughout its development, Netflix has recognised market needs and created products to meet them. Every choice Netflix has made is based on deep user knowledge, whether it's easy access to DVDs in the beginning or account profiles and on-demand streaming now. Each update has also helped them to gradually raise prices.

2 CREATIVE TASK

BUILDING A VALUE PROPOSITION CANVAS BASED ON A STARTUP'S PRODUCT IDEA [4]

TASK

Build a canvas based on customers' desires, needs and fears.
Build a proposal that will include the benefits and features of the product idea based on the previous stage.
Forecast the impressions of customers for the product idea.

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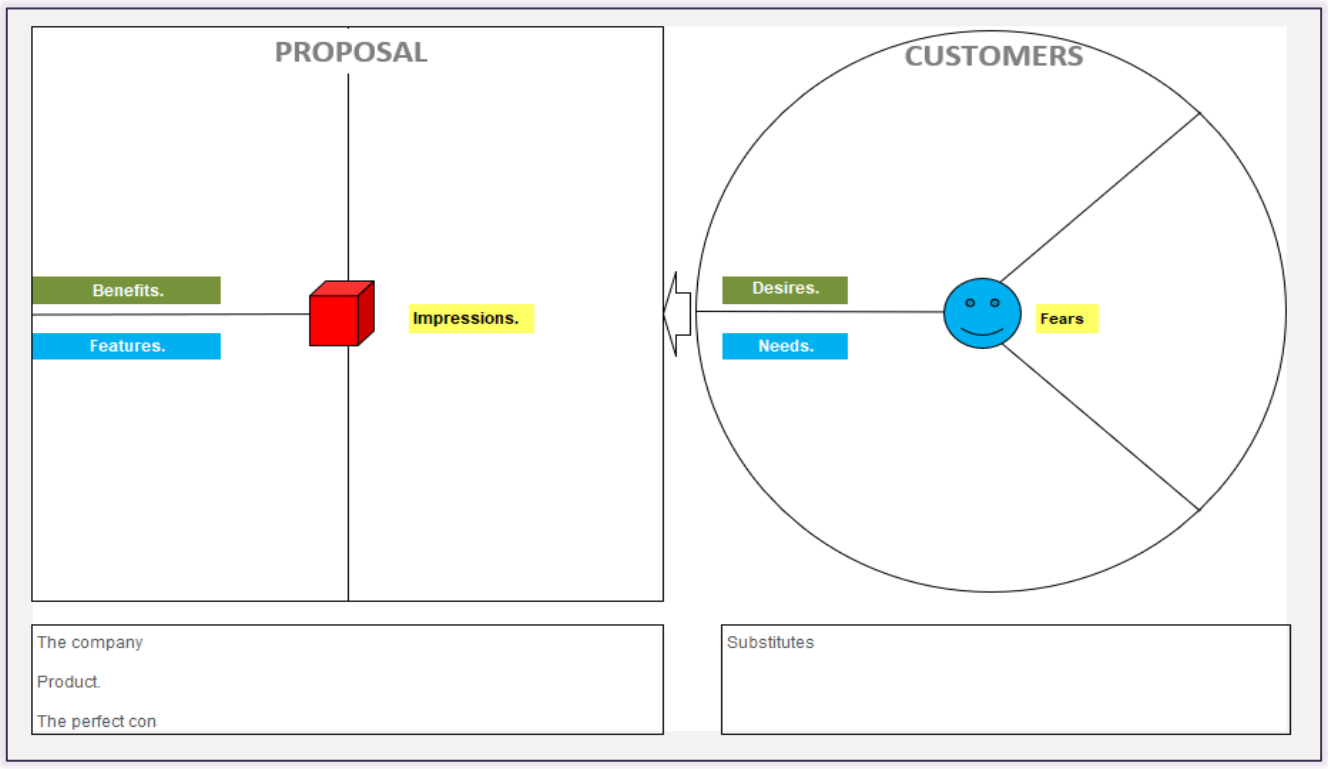

Value proposition Canva is based on a startup's product idea

3 TRAINING OF PRACTICAL SKILLS

FORMATION AND DEVELOPMENT OF A MINIMUM VIABLE PRODUCT [5]

TASK

Make and process a checklist tasks in the following sequence:

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A product idea is generated using the following algorithm [5]:

1. Defining the functions that an acceptable product variant should perform.
2. Mapping out a wide range of elementary solutions, i.e. alternative means of realising each function.
3. Select one acceptable elementary solution for each function.

To create a morphological map of a startup product idea, use the form:

Main parameters	Interim solutions				
	1	2	3	4	5

Put the idea of the product as a commodity in the form:

The idea:	….		
	Product by design	The product in real life	Goods with reinforcement
	…	…	…

An example of the application of morphological analysis by S. Ilyashenko and Y. Shipulina [5]:

Using morphological maps, it is necessary to generate an idea of a space heating system that would be inexpensive and cheaper to operate than existing ones. Using the method by its stages involves:

Identification of the main functions: acceptable air temperature within the range of 18-21 degrees; acceptable air movement, without drafts; acceptable humidity; the heating element should ensure that there is no feeling of cold; regulation of the vertical temperature gradient to avoid a feeling of stuffiness; acceptable price of the heating system (no more than 10 thousand UAH); the cost of operation should be less than the existing central and individual heating systems; use only those energy sources that are not in short supply in Ukraine.

Drawing a morphological map, which identifies possible solutions - means of implementing each function.

Select one acceptable solution for each function. Dark shading shows the traditional district heating system, while lighter shading shows the innovative option.

Formulation of a new product idea: the heating system consists of electric heating elements that heat up at night when electricity is cheap.

Product idea:

1. Product by design. The heating element is beneficial for the consumer because its price is lower than its analogues. It is beneficial for the manufacturer, as the cost of its production will be slightly higher than the price of a conventional oil radiator, and sales are guaranteed.
2. The product is in actual performance. The heating element looks like a panel with an area of about 1 m2 and a thickness of 1-2 cm. It can be decorated in the form of a wall panel, a picture or built into a wall. The heating element is powered by a 220 V electrical network. Its maximum power output is 150 W. The estimated average daily power consumption is 100 W. The service life is more than 10 years. The cost is 1000 UAH.
3. The product is backed up. The warranty period is 3 years. The product can be designed accordingly at the request of the customer. On-site installation options are available. A sale on credit is possible. Wholesale customers receive a 5% discount.

Morphological map [5]

Main parameters	Interim solutions				
	1	2	3	4	5
Air temperature	*Warm air from a central source*	*Convector in the room*	*Convector-radiator in the room*	*Adjustable heat source for heat transfer*	*Other*
Air movement	*Natural circulation*	*Forced circulation*	*Natural convection*	*Forced convection*	*Other*
Air humidity	*Unregulated*	*Humidifier evaporator*	*Other*		
Heating element	*High-temperature electric heater*	*High-temperature open flame heater*	*Panels with low-temperature fluid circulation*	*Low-temperature heater*	*Surfaces heated by convection*
Temperature gradient	*Thanks to the positioning of the heating element*	*Thanks to the position of the heating element*	*Other*		
Heating mode	*Constant throughout the day*	*Switching on periodically during the day*	*During the day*	*At night, with periodic switching on during the day, to maintain the temperature regime*	*Other*
Coolant	*Water.*	*Air*	*Grease*		*Other*
Energy source	*Coal*	*Fuel oil*	*Gas*	*Electricity*	*Other*

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WORKSHOP FOR TOPIC 3

BUSINESS MODELING OF A STARTUP

CONTENTS OF PRACTICAL LESSON

①Exercise:

- type of business model of a startup;
- building a lean canvas business

②Training of practical skills: Building a Business Model Canvas by O. Osterwalder and Y. Pigneur.

EXERCISE

① TYPE OF STARTUP BUSINESS MODEL [1; 2]

TASK

Given the descriptive characteristics of business models, identify their type and the approaches used. Enter the results in the form:

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Startup name	Type of business model [1]	Approaches and orientation of the business model [2]

1 - intermediary, advertising, trading, partnership, information, direct production, service;

2 - the concept of «sharing», «long tail», multilateral platforms, FREE-type, open business models

Use the following business models to complete the table [2]:

Model no. 1: Airbnb. Airbnb is an online marketplace that enables people to list, find, and rent accommodations (single rooms, apartments, houses, …) for a processing fee.

Secret Sauce: The biggest accommodation provider in the world does not own a single room. Airbnb does not rent the accommodation from the host but conveys only between supply and demand. Their business model builds on the sharing economy and on the strong belief that house owners are willing to rent out free space to strangers.

Model no. 2: Alibaba. Alibaba Group is the largest (online) retail company in the world.

Secret Sauce: Alibaba Group has no inventory. Long-tail competitors like Amazon buy merchandise and sell these to their customers by using their infrastructure. Alibaba`s main focus is to connect buyers with sellers. It mainly relies on bringing together Chinese sellers with buyers around the world. The value of Alibaba lies in the software interface, not in the products.

Model no. 3: Hilti. Hilti is a Liechtenstein multinational company that develops, manufactures, and markets products for the construction, maintenance, and mining industries, primarily to the professional end-user.

Secret Sauce: Hilti has disrupted the market by shifting from a purchase to a transaction/rental-based business model. They realized that their customers' need is not to own a reliable tool but rather to have the right tool at the right time. They handle the maintenance of the tools and their customers simply rent their tools whenever they need them. Thus, their customers don't have to have every single tool they would possibly need in their stock.

Model no. 4: IKEA. IKEA is not only our first source of candles and a reason for a quarrel on a Saturday afternoon. It's also a group of companies that designs and sells ready-to-assemble furniture appliances and home accessories.

Secret Sauce: Its business model includes global sourcing of components, accessible suburban stores, quality products with sophisticated European design at low cost, and in-store amenities, such as coffee shops, restaurants, and day-care facilities.

Model no. 5: Tesla. Tesla Motors, Inc. is an American automotive and energy storage company that designs, manufactures, and sells electric cars, electric vehicle powertrain components, and battery products. It aims to accelerate the advent of sustainable transport by bringing compelling mass-market electric cars to the market.

Secret Sauce: By offering a wide range of high-quality services Tesla makes the use of an electric car easy and uncomplicated. This positive experience leads to the fact

that 9 out of 10 customers would recommend their Tesla car. To enhance further growth, Tesla invests heavily in their infrastructure.

Model no. 6: Wikipedia. Wikipedia is a free Internet encyclopedia that helps to improve common knowledge. It allows its users to edit almost any article accessible. It is the largest and most popular general reference work on the Internet and is ranked among the ten most popular websites.

Secret Sauce: The company can motivate a large community to participate in the project without offering financial benefits. With the contribution of the online community, Wikipedia ensures the quality of the articles.

Model no. 7: Zara. Zara is a Spanish clothing and accessories retailer. It is one of the world's largest international fashion companies.

Secret Sauce: Zara produces where it sells. It utilizes a very tight supply chain from initial design through to final production. This allows the company to adapt to new fashion trends and ideas within two weeks. As a result, short lead times for new products and fast replenishes of sold-out merchandise, are being made possible.

Model no. 8: Local Motors. Local Motors is an American motor vehicle manufacturing company focused on low-volume manufacturing of open-source motor vehicle designs using multiple micro-factories.

Secret Sauce: Local Motors searches for new and forward-looking problems of whole industries and solves them in a much faster way and with lower development costs than traditional companies with the contribution of a large online community.

Model no. 9: Easybank. Easy Bank is the second-largest direct bank in Austria.

Secret Sauce: Easy Bank offers a wide range of financial products via online banking and without a branch network. By keeping the infrastructure costs to a minimum, the bank can offer services without transaction and account fees.

Model no. 10: Red Bulletin. Red Bulletin is a lifestyle magazine that features breathtaking sports, culture, music, nightlife, entrepreneurship and lifestyle stories. The focus of the magazine is to press further ahead with establishing the Red Bull brand around the world.

Secret Sauce: Red Bulletin creates revenue through the subscription fees before the costs of the production of the magazine occur. Besides, the magazine creates further value by advertising Red Bull activities.

2 CONSTRUCTION LEAN CANVAS BUSINESS MODEL [3; 4]

TASK

Build a business model for the startup given in the Lean Canvas template. Use the Excel template to build it (complete the task as a team)

«Paradise» socks from students of Mohyla Academy [3]

Even such a utilitarian thing as socks can be «divine» and give the wearer comfort and emotions, according to Oleksiy Malytskiy *and Philip Lytvynov, founders of the Sammy Icon socks company.*

The idea of producing colourful socks by Sammy Icon came about back in 2012. One of the company's founders, Oleksiy Malytskiy, a student at the Kyiv Mohyla Academy, wanted to buy coloured socks, but he was not satisfied with the range of socks available in stores. He came up with the idea of producing brightly coloured socks, which he shared with his fellow student Philip Lytvynov. The guys started looking for opportunities to organise such production - they studied factories, technology and costs. Negotiations with potential contractors were unsuccessful. The entrepreneurs heard mostly categorical answers: «We have colourful models,» although the socks were dark and almost monochromatic. Only the Lviv factory agreed to make 200 pairs. Malitsky and Litvinov found a designer who drew the first 11 sketches and put the project into action.

The co-owners of Sammy Icon invested their own money, hoping that $10,000 would be enough to cover the initial costs: the purchase of Italian machines and Polish textile thread, as well as the production of the first batch of socks. But the actual budget turned out to be twice as much. Litvinov says that they made typical beginner mistakes: they drew the layout incorrectly, were not prepared for the shortage of the right thread, and ended up with a spoilt product. «It happened that the socks did not turn out as planned. We still have such batches in stock,» he says. It took them six months to develop the process.

After receiving the first batch of «perfect» socks, Malytskiy and Lytvynov tried to sell them to stores. At first, they gave the goods to friends and acquaintances who had their outlets. They promoted their products simply by using word of mouth and social media to tell people about the new youth brand. A small amount of money was spent on flyers and business cards. Lytvynov admits that at first, they relied on offline sales,

although it would have been easier to get the word out on the Internet. The website was made by friends, and the brand's accounts on Facebook and Vkontakte appeared almost simultaneously, followed by Instagram a little later.

Soon, a large retailer, Helen Marlen, took notice of the new brand. Initially, the batches were small - 30-50 pairs, and later the volumes increased. Already in 2013, the friends decided that it was time to open their outlets. The first store appeared in the Pyramid shopping centre in Poznyaki in Kyiv, then in Metrograd. Today, the guys have five partners in Kyiv alone, and Sammy Icon socks are sold in Russia, Finland, the USA, South Korea and Mexico.

The entrepreneurs invested all their profits in production, spending only on salaries and office rent. A year later, the company began to make a profit. In the early stages of development, the company spent a lot of money on developing new collections, packaging, improving production, and expanding exports. In the same year, 2013, Sammy Icon also launched its courier service.

In the summer of 2013, the brand launched its first Kickstarter campaign for an 8-bit collection featuring ornaments of old console games. The entrepreneurs say that it was more of an image move: at the time, the company was planning to enter the US market. They raised only $8.9 thousand, but the main thing is that US customers noticed them.

Now Alexey works remotely, mainly in charge of accounting. Philip is in charge of brand development and travels a lot on business trips. At first, the guys did everything themselves, sometimes with the help of their friends. Now we have people who work in the warehouse and are engaged in packaging and a small call centre. The couriers are remote, but the company founders carefully monitor the quality of their work. Sammy Icon has no plans to outsource its delivery service. «Couriers are the face of the brand. We decided it was better to train our people,» says Philip.

The social media audience also means a lot to Sammy Icon. Their main communication channel is Facebook. The brand's page has over 16.5 thousand likes, which is an average figure for a Ukrainian startup. The guys attract new subscribers through the standard «like and share a post and win a pair of socks» promotions, but they focus on high-quality everyday messages. «We just try to write the way we would write on our page,» Philip says. This helps us get more feedback.

In addition, the company tries to maintain customer loyalty and periodically gives regular customers small gifts. Promotions also help to maintain loyalty: once, together with the Cap & Cake coffee shop, they gave coffee to those who came in Sammy Icon socks.

«We want to give emotions to people,» the start-ups say. In their opinion, people should enjoy socks and get pleasant impressions. The company came up with a

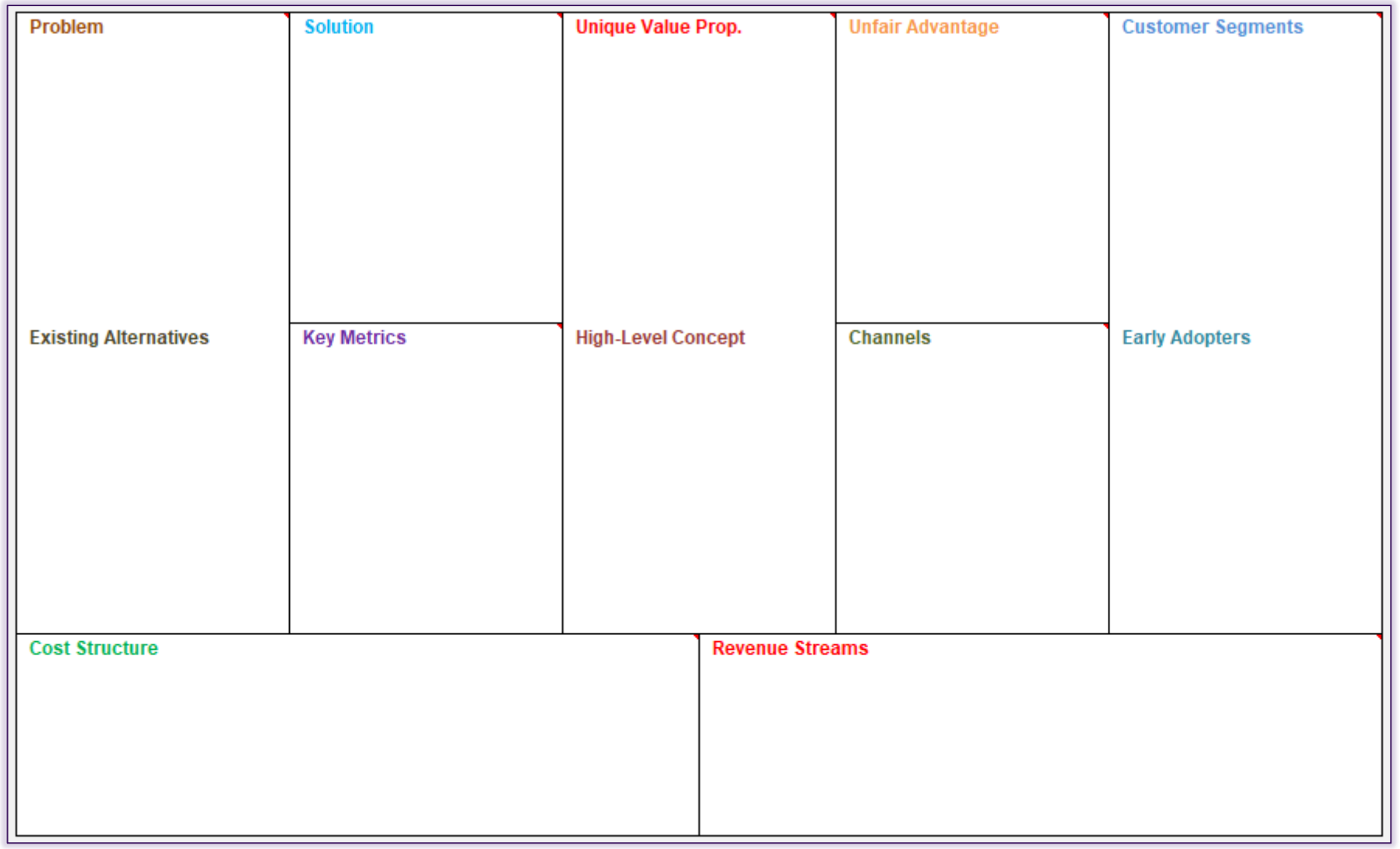
legend about the angel Sammy, who accompanies travellers, especially if they are wearing branded socks. This is how the slogan «Made in Paradise» was born, and Sammy became a regular feature on social media. Now he is an integral part of communication. Each pair of socks has its legend. For example, Sammy travelled to the US and came up with Navajo.

Oddly enough, the main buyers of the brand were not hipsters at all, but respectable businessmen and corporate employees. They are worn mainly on weekends, although some allow themselves to wear bright socks under a business suit. Most of the goods are bought by men - about 60/40, but it is difficult to calculate exactly - many things are taken as gifts. This is especially noticeable before the holidays - for example, before the New Year, the number of orders increases 2-3 times.

Today, the Sammy Icon brand is not just about socks. The company produces underwear, and leggings and even sells Illusion Explorer glasses. But the first-born product still generates most of the profits. «Now we have more sales offline than online,» the company's founders say. However, they do not intend to change the situation yet. Litvinov, who has become the «face» of the brand, actively travels to international exhibitions to popularise his product and promote it abroad. He plans to attend Bright Tradeshow in Berlin to help find new partners.

In total, the startup's initial investment was $20,000, the Facebook page's audience was 16.5,000, it raised $8.9,000 on Kickstarter, and more than 50% of sales were exported.

Lean Canvas Business Model [4]



2 TRAINING OF PRACTICAL SKILLS

CONSTRUCTION CANVAS BUSINESS MODEL OF O. OSTERWALDER AND Y. PIGNEUR [1; 5]

TASK

Based on the Canvas business model template create a business model for your startup idea using one of the strategies:
«From the product»,
«From the client»,
«Professional»,
«Head Start»,
«Resource».

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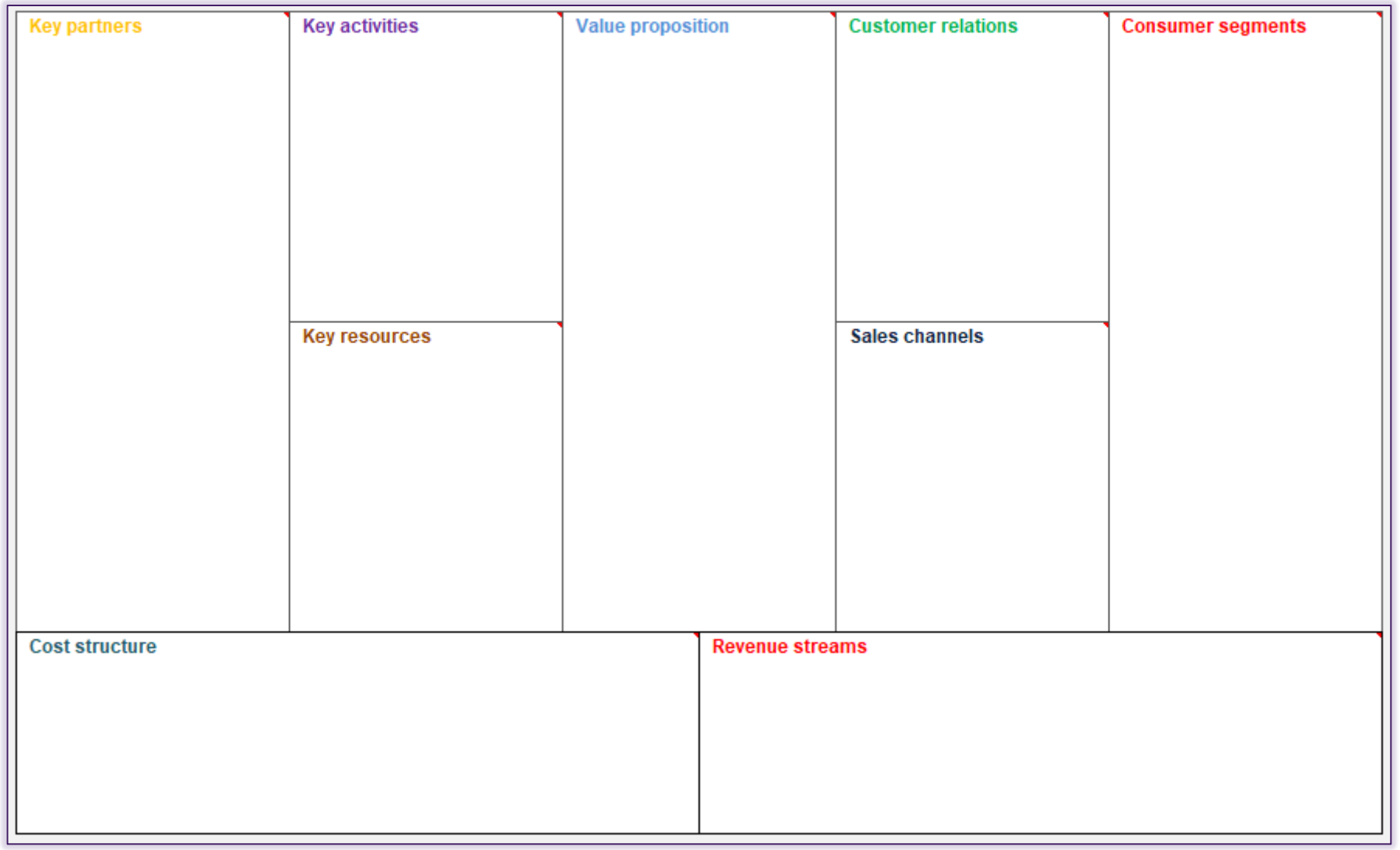
Business Model Canvas [5]



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WORKSHOP FOR TOPIC 4

MARKETING OF A STARTUP PROJECT

CONTENTS OF PRACTICAL LESSON

①Exercise: startup market research worksheet.

②Practical skills training:

- startup marketing budget;
- startup market analysis and marketing plan

1 EXERCISE

STARTUP MARKET RESEARCH WORKSHEET [1]

TASK

For the selected startup, conduct a general market research for the startup's product. Record the results in a worksheet

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Worksheet [1]

1. Identify the products or services offered by the startup

2. Describe the general types of customers who will use the product or service.

3. Where are these potential customers located?

4. State why and when they might need your products or services. If you are not sure, ask your prospects to tell you.

5. How often will customers need to buy what you offer?

6. Describe the benefits that your product or service offers to customers. What specific problems do they solve? What "pain" do they relieve?

7. How do potential customers solve these problems or fill these needs now?

8. List your known competitors - local, national and online.

9. What makes your service or product different from your competitors? What is the uniqueness of your offer?

10. How do you plan to find customers? (Tick all that apply)

- ☐ Regular mail (letters, postcards, etc.)
- ☐ Website
- ☐ Free messages on social networks
- ☐ Distribution of postcards
- ☐ Advertisement (print)
- ☐ Word of mouth and referrals
- ☐ Network at business meetings
- ☐ Advertisements on radio and television
- ☐ Email marketing and e-mail
- ☐ Personal sales calls
- ☐ Paid advertising in social networks
- ☐ Paid media advertising in newspapers or magazines
- ☐ Advertisements in the Yellow Pages
- ☐ Formal leadership groups
- ☐ Exhibitions
- ☐ Advertising in search engines (eg AdWords)

Other (describe):

11. How do people now find out about this product or type of service? (Don't guess! Go out and ask your prospects)

- ☐ Regular mail (letters, postcards, etc.)
- ☐ Internet search
- ☐ Through social media
- ☐ Referrals among friends and acquaintances
- ☐ Advertisement (print)
- ☐ Word of mouth and referrals
- ☐ Network groups
- ☐ Advertisements on radio and television
- ☐ Email
- ☐ Personal sales calls
- ☐ Paid advertising in social networks
- ☐ Paid media advertising in newspapers or magazines
- ☐ Advertisements in the Yellow Pages
- ☐ Formal leadership groups
- ☐ Internet mailings
- ☐ Advertising in search engines (eg AdWords)

Other (describe):

12. Make a wish list of specific individuals or businesses that would be interested in what you are selling

13. How much money do you have for advertising every month? ☐

14. How much will you spend on each of these marketing methods? Keep in mind that "posting free ads and social media takes time, and time is money."

Mailings (includes the cost of postage, mailing lists, if they will be rented, and printed)	
Personal sales calls	
Membership in the organization and fees for meetings	
Advertisement	
Cost of time spent on social media	
Printed media advertising	
Search engine pay-per-click ads	
Paid advertising in social networks	
Window signs and advertising posters	
Creation and maintenance of websites	
Press release services, грн	
Other (specify)	

15. Compare your expected customer sourcing methods and costs with the ways that potential customers have indicated they use most to find similar products or services. Then decide what steps you need to take to get them to buy from you. List them below and set target dates for completion.

Action	Start date	Estimated cost	Actual cost	Control date	Result

2 TRAINING OF PRACTICAL SKILLS

1 MARKETING BUDGET FOR A STARTUP [2]

TASK

Prepare and work out the marketing budget of the startup in the following sequence

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1. Evaluate the means of promotion of the selected startup *from the perspective of the startup team, contact audiences, and consumers.* Metrics for evaluation: 1-3. Enter the results in the table:

Tools	Startup team	Contact audiences	Consumers
Branding			
Website			
Social media			
Content marketing			
Mobile application			
Specialised events			
Traditional channels			

2. Determine the components of the marketing budget of the selected startup, give them a brief description and approximate cost. Enter the results in the table:

Budget component	General characteristics (what this component of the marketing budget includes)	Estimated costs
Branding		
Website		
Social media		
Content marketing		
Mobile application		
Specialised events		
Traditional channels		

3. Please consider the following explanations and tips when completing your assignment [2]:

Branding. Designing branded elements and products (from trademarks and business cards to letterheads and brochures) is necessary to create a coherent image of the company for customers and partners. Depending on the size, scope and goals of the business, this can cost from $100 to $10 thousand (startups usually spend from $4 to $5 thousand). Remember that branding creates the first impression of the company, which determines its success, so it is better not to skimp on branding.

Website. Frankly speaking, if you just need a website, you can create it yourself in a couple of hours by spending $100 on a domain name and hosting. But if you want

your website to attract attention and sell goods or services, as well as match your branding, hire a web developer. Specialised experts will help with positioning, SEO, content, and adaptation to mobile platforms, develop the structure and design, and help with website setup (security, personal data of users, payment gateways, integration with social networks, etc.) Depending on the complexity, an all-inclusive website can cost from USD 3 to 10 thousand.

Social networks. The cost of marketing on such social networks as Instagram, Facebook, YouTube and LinkedIn in America and Europe, WeChat, Weibo and QQ in China ranges from $100 to $5 thousand per month for content (posts, articles, graphs, memes, tables, videos) and from $5 per day for advertising. Small start-ups usually spend up to USD 2 2,000 per month on SMM, while large ones - from USD 10 to 100 thousand.

Content marketing. You need consistent, high-quality content to attract attention, traffic, and dollars to your business. You can create content with the help of freelancers - from $500 per month; full-time employees - for free; users - for free; an internal team of copywriters, editors, designers, etc. - from $3 to $30 thousand per month.

Mobile application. The majority of people access the Internet and use web services (shops, delivery services, video or audio streaming) using mobile devices, and 80% of such users prefer to do so through an app rather than a browser. Therefore, for a startup to succeed, it needs a mobile application, the development of which costs from USD 5 to 250 thousand.

Specialised events. Attending various specialised events is probably the easiest way to promote your business. One such event can cost up to USD 5 thousand (airfare, accommodation, meals, preparation of a presentation). There can be several such events a year, for example, there are six major events in the video game industry: E3, Gamescom, IgroMir, Tokyo Game Show, Brazil Game Show, and Paris Games Week.

Traditional channels. Traditional marketing channels include television and radio, outdoor advertising, print media and magazines, and various events. The cost of marketing for such channels depends on the country, industry, complexity, time and many other factors. For example, advertising in a regional media outlet can cost USD 5 per column, while the price of advertising during the Super Bowl can reach USD 5 million for 30 seconds of airtime.

2 STARTUP MARKET ANALYSIS AND MARKETING PLAN [3-9]

TASK

Analyze the market of the chosen startup and form a marketing plan.

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1. Create a preliminary assessment of the market for a startup using the table [3]:

№	Indicators of the state of the market (name)	Characteristics
1	Number of main players	
2	Total sales volume	
3	Market dynamics (qualitative assessment)	Increases/declines/stagnates
4	Availability of restrictions for entry (indicate the nature of restrictions)	
5	Specific requirements for standardization and certification	
6	Average rate of return in the industry (or market), %	

2. Estimate the size of the market. To assess the sales potential, it is necessary to determine the market volume, the maturity of the market (industry). The calculation should be carried out according to the methodology PAM, TAM, SAM, SOM [4; 5].

3. Perform segmentation. Define the target audience and enter information about it in the table:

Parameters	Parameter content	Startup
Define the general target audience according to its constituents	Define the general target audience according to its constituents	
Geographical criteria	Placement of the target consumer	
Socio-demographic criteria	Gender, age, type of activity, income/ size of the enterprise, industry, etc. (in case of B2B)	
Behavioral	What influences the purchase of a product	
Psychological	Consumer values, dependence on social norms and patterns	

4. Select target segments based on customer segmentation techniques [3]:

Market segmentation matrix

Criteria	Characteristics			
	1	2	3	4
High growth				
Moderate growth				
Low growth				
Low decline				
High decline				

5. Create a portrait of the target buyer.

What do they want to buy?	
Who is the buyer?	
Purpose of purchase	
When a customer buys a product	
Where the customer wants to purchase the product	
The goal of a startup	

6. Evaluate the competition in the market.

❑ *Carry out a step-by-step analysis of competition in the market* [3]:

Peculiarities of the competitive environment	What does this characteristic show?	Impact on the company's activities
1. Specify the type of competition monopoly/oligopoly/ monopolistic/pure		
2. By the level of competition local/national/…		
3. By branch interdisciplinary/ intra-industry		
4. Competition by types of goods: commodity-generic commodity type between desires		
5. By nature of competitive advantages price / non-price		
6. By intensity vintage/not vintage		

❑ *Set the type of startup competitors:*

№	The name of the competitor's company	Similarity to a startup	Key	Direct	Indirect
1.		*It has similarities in functional features of the product*	*		
2.		*The product performs a similar function but is significantly outdated*		*	

❑ *Determine the strength of competitors:*

№	Name of the competitor's company	Market share	Conclusions regarding the impact on the startup

❑ *Establish the influence of competitors on the startup based on the established matrix of competitors [7]:*

	Direct competitors	Indirect competitors
Strong competitors	A competitor is a threat to a startup, active consumer involvement is required	A competitor is a threat to a startup, active consumer involvement is required
Weak competitors	The competitor is strong, but its consumers can become consumers of the startup	The competitor is weak, and does not threaten the startup, but it is worth following its innovations

❑ *Analyze the startup's strengths and weaknesses compared to competitors [3]:*

№	Competitiveness factor	Points 1-20	Rating of competitor products compared to key competitors						
			–3	–2	–1	0	+1	+2	+3
1									
2									
3									

❑ *Conduct a general analysis of key competitors [7]:*

Evaluation criterion	*Competitor 1*	*Competitor 2*	*Startup*
Key/unique product features			
Availability of intellectual property protection			
Brand presence			
Access to limited resources			
Points of cooperation with the audience			
Sales channels			
Customer interaction network			
Market size			
Product price			

7. Carry out a SWOT analysis of the startup

❑ *Make a SWOT analysis of the startup project [8]:*

Company SWOT Analysis Grid		
	Opportunities	**Threats**
Strengths	Use superior operations and delivery to go after increasingly sophisticated high-end takeout and catering markets CAPITALIZE ON THESE	We depend on our high quality and service, but it's harder to attract and keep good people MONITOR THESE
Weaknesses	Big growth in catered events market, but we're weak in marketing Promise of the Internet, but we have no R&D IMPROVE THESE	Our poor marketing and precarious financial condition are dangerous, given the increased competition we face ELIMINATE THESE

8. Define the basic development strategies, competitive strategies and positioning strategies of the startup

❑ *Determination of the basic development strategy [3]:*

Selected project development alternative	Market coverage strategy	Key competitive positions according to the selected alternative	Basic development strategy

❑ *Determination of the basic strategy of competitive behavior [3]:*

Is the project a «pioneer» on the market??	Will the company look for new customers, or take existing ones from competitors?	Will the company copy the main characteristics of a competitor's product, and which ones?	The strategy of competitive behaviour

❑ *Definition of positioning strategy [3]:*

Product requirements of the target audience	Basic developme nt strategy	Key competitive positions of your startup project	Selection of associations that should form a comprehensive position of your project (three key ones)

❑ *The concept of marketing communications [3]:*

The specifics of the behaviour of the target customers	The communication channels used by the target customers.	The key positions chosen for positioning	The task of the advertising message.	The concept of the advertising appeal.

9. Determine the marketing budget of the chosen startup, determine the approximate cost. *Enter the results in the table:*

Budget component	General characteristics (which includes this component of the marketing budget)	Approximate amount of expenses
Costs of marketing research		
Promotion channels (specify which ones: social networks, etc.)		
Sales channels		

10. Make a short marketing plan [9]:

№	Section title	Elements of section content (the result should be written in this column)
1.	Goals and objectives for the coming year	*Entering the market or creating your market; luring customers of competitors; product promotion - online or offline*
2.	The mission and values of the startup	*A clear definition of what the startup does, what market it belongs to, what advantages it provides to customers (low prices, high quality, reliable service, etc.), what the basic philosophy of the startup is and what products/services are offered*
3.	Target audience	*Necessary parameters regarding the target audience (age, gender, income, purchasing power, hobbies)*
4.	Analysis of the situation	*Information about the product, its functions, advantages and differences from competitors' products; prices, discounts, bonuses; promotion* *Information about the network (channels) of distribution – definition of product distribution channels* *Analysis of competitors, SWOT analysis* *Analysis of current sales: in the entire market, in a certain segment, by distribution channels, by distribution regions* *Profitability analysis*
5.	Prices and positioning strategy	*How the startup will position itself, what resources it has at its disposal*
6.	Promotion plan	*General promotion plan, taking into account existing and planned channels*
7.	Marketing assets	*Identification of the tools with which the startup plans to promote the product/service*
8.	Conversion strategy	*Determining how the company plans to encourage users to make sales*
9.	Joint ventures and partnerships	*Identification of related goods that may be needed by startup consumers, identification of enterprises engaged in their production or providing services, an attempt to negotiate cooperation with them*
10.	Plan to increase sales	*Determination of key factors for increasing revenues from each client*
11.	Referral attraction plan	*Development of a set of measures to attract friends and acquaintances of existing customers (discounts and bonuses for attracting new customers, etc.)*
12.	Financial forecasts	*All planned expenses, assessment of own resources, determination of the need and volume of resource attraction, as well as potential sources of funding (investors, grants, relatives)*

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WORKSHOP FOR TOPIC 5

BUSINESS PLANNING OF A STARTUP

CONTENTS OF PRACTICAL LESSON

①Case for discussion: how to make roads smarter
②Practical skills training:
- development of a business plan for a startup project
- financial model of a startup

1 CASE

HOW TO MAKE ROADS SMARTER [1]

Working with traffic accident statistics can be beneficial. In Denmark, for example, the number of road accidents in cities has been reduced to almost zero. Municipalities have analysed where accidents occur most often and developed a set of measures to make them safer. In 2016, a similar project called Smart Roads was launched in Ukraine

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Sergiy Yefimov came up with the idea of creating a project to solve municipal problems back in 2014. «Roads are a place where people spend a lot of time, sometimes not very comfortably or even dangerously. That's how I came up with the idea of combining two goals,» says Serhii. Work on the Smart Roads startup began in Mariupol. Sergiy quickly managed to assemble a team of like-minded people. Vlad Zaitsev took information from the police about the locations of the most frequent road accidents. Oleg Morgunov wrote on Facebook about how to fix these road sections, attracting the attention of other volunteers and the public. As a result of this joint activity, the mayor agreed to fix the defect at one of the intersections. While discussing

how to do this, two more accidents occurred. It turned out that a garbage can was to blame. After two months of discussions, the bin was moved to a new location, and the number of accidents in this area dropped to zero. «That's when we realised that our system was working,» says Efimov. «There are 11 such emergency intersections in Mariupol, and two of them will soon lose their 'dangerous' status.

The project was soon launched in Berdiansk. In early 2016, Smart Roads was selected by the 1991 Smart City Incubator. Now the team consists of 15 people. At the same time, as Serhii notes, not a single penny has been invested in the project. «All investments are personal time,» he laughs. The website was created by volunteers Yevhen and Yevheniia Poremchuk.

Thanks to Smart Roads, drivers will be able to rank the most dangerous areas on the roads and demand that the authorities take action. According to the authors' idea, people will influence the work of the mayor's office and road services, as they are responsible for such projects. In addition, there is an option to add road accidents if the system does not know about them. This way, citizens can see where accidents are concentrated and vote on which areas should be addressed first. The founders of the project were guided by European practices. In many countries, similar programmes operate under municipalities, helping road services to effectively control the situation on the roads and minimise the number of accidents.

Ukraine already has a similar experience: in Lviv, French experts were invited to help develop road junctions in some parts of the city. The map shows the locations of frequent road accidents based on police data.

The project working group proposes a way to modernise this area to reduce the number of accidents. The upgrades are carried out by the road service after a decision is made by the local council or by private companies with donor funding. For example, installing a speed bump, putting up a sign, changing the markings, traffic lights, putting up a new traffic light, or cutting down trees to improve visibility in a particular area. Currently, the service is available only on the website of the Smart City project. «It will be possible to point to such a site with one click from a mobile phone,» says the project's author.

The most difficult thing, he says, is the need to find like-minded people in government agencies. «At first, the project was very difficult to move forward, but now many people support it and meet with us. After Serhii showed the results of Mariupol to Yurii Nazarov from the Kyiv City State Administration, active work began.

Now the Kyiv Smart City initiative is implementing the project in Kyiv. Its test version can be seen on the initiative's website. The mayor of Kyiv has supported the project, and negotiations are underway with the Kyiv City State Administration to launch it in the capital. «For example, the Scandinavians reduced the number of road accidents

by 50% just by analysing traffic accident statistics and creating a safe environment in the places where accidents occurred most often. We will help our city become safer,» assures Sergey Yefimov.

QUESTIONS FOR DISCUSSION:

1. What stages of implementation did the startup go through?
2. What prospects do you think the project has in terms of implementation in Ukraine and abroad?
3. Describe the startup's content by sections of the business plan that should be submitted for consideration to attract investment.

2 TRAINING OF PRACTICAL SKILLS

1 STARTUP BUSINESS PLAN (KEY METRICS) [2-6]

TASK

Develop key metrics for your chosen startup:

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1. Summary of the startup business plan:

Indicator	Data	
Startup idea	The main idea of the startup	
Startup team	Description of the startup team	
Market description	Description of the market that the startup will enter	
Product	Description of products and their unique properties	
Resource	Description of resources available to the startup	
Risks	Key risks of a startup project	
Implementation period	Startup implementation period	…
	Start of preparation (pre-session stage)	…
	Start of sales (startup stage)	…
Project budget	The cost of the project	…
	Own funds owned by the startup	…
	Funds are necessary for investment	…
Profitability of the project	Income	…
	Expected net profit	…
	Return on investment ratio (ROI),%	…

2. Description of the idea/product

A brief description of the idea/product using the given structure [2]:

Content of the idea/product of the startup	Uniqueness of the idea/product	Directions of application	Benefits for the user
	1.	1.	
	2.	2.	
	…	…	
Protection of intellectual property objects	Presence or necessity of patenting		

3. Marketing plan

1. Preliminary characterization of the potential market of the startup project

Market condition indicators (name)	Explanation
Market size	According to the PAM, TAM, SAM, SOM method
Number of main players, unit	Number of players
Total sales volume, hryvnias/unit	The volume of sales in the industry is on the website of the State Committee of Statistics
Market dynamics (qualitative assessment)	Increases/declines/stagnates
Industry life cycle stage	Stage of decline, maturity, slowed or accelerated growth.
Availability of restrictions for entry (indicate the nature of restrictions)	Identify barriers to M. Porter

2. Characteristics of the target audience. To determine the target audience of a startup, it should be characterized depending on the type of startup product: product category - for a product on the B2C market or target audience of the business market - for the B2B market:

Characteristics of the target audience [3]

Signs	Characteristics of the Startup Audience
What?	*What exactly is the customer going to buy? What products or services are they interested in? What exactly does he want to achieve? What are their goals and needs?*
Who?	*Who are your customers? (Their social and demographic characteristics - gender, age, marital status, level of education, social status, profession, hobbies, etc.) What are their interests and lifestyles? What do they have in common and what makes them different?*
When?	*When and how often does your customer buy or is ready to buy? What are the periods when the customer is looking for a product or service? Is there any seasonality in their requests?*
Where?	*Where is your customer physically located? In which country, city, or neighbourhood? Where does he spend his time: on what platforms, websites, social networks? Where does he usually buy? (Near the house, in large shopping centres, in online stores, etc.)*
Why?	*What is the motive for your customer's choice of a particular product? (External characteristics, price category, prestige, uniqueness of the product, etc.) Why is it important to him and what are his motivations and values? Why does he choose your product or service, what makes him a loyal customer?*

3. Promotion and communication [2]:

The specifics of the behaviour of target customers	Communication channels (promotion channels: social networks, e-mail, etc.)	Key positions were chosen for positioning	The task of the advertising message	The concept of the advertising message

4. Sales system [2]:

The specifics of the purchasing behavior of target customers	The sales functions are to be performed by the product supplier	The depth of the sales channel	The optimal sales system

5. Setting the price of the startup product. To determine the price of a startup product, it is necessary to estimate three key variables: the base price of the product, the wholesale price and the retail price, as well as to determine the price level in the market, if there are similar products. According to the first variable, the price of a startup product will be calculated as follows [4]:

$$P_{r1} = c_m + \cdot c_h,$$

where P_{r1} – the basic cost of the startup's product;
c_m – material costs;
c_h – labour costs.

$$P_g = (c_m + \cdot c_h) \cdot x,$$

where P_g – wholesale price;
c_m – material costs;
c_h – labour costs;
x – wholesale margin.

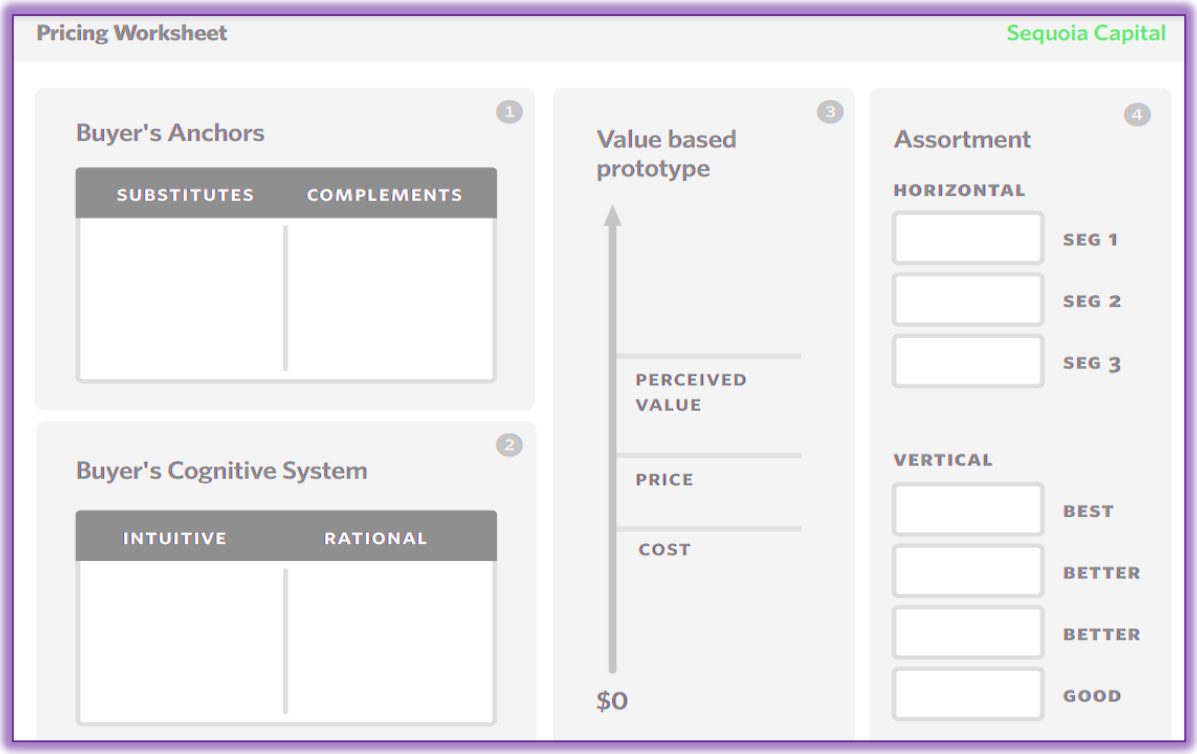
$$P_p = P_g \cdot y,$$

where P_g – retail price;
y – retail margin.

The next step is to determine the price limits that should be used to set the price of a potential product [4]. For this purpose, it is advisable to use the methodology shown in Fig 4 [5]:

- the field «Consumer opinion» (1) contains information about what people think when they first see the startup's product, below in the field of substitute products is the opinion of consumers about the product they can buy instead of the startup's product, in the field of complementary products - the opinion of products that consumers would buy together with the startup's product;
- in the product conclusions field (2), intuitive preliminary conclusions of consumers about the startup's product and their conclusions after using it are entered;
- field (3) helps to visualise price information that depends on substitute and complementary products.

Map for determining the price of a startup product [5]



Further, the upper and lower price limits for the startup's product are formed, taking into account both substitute products and analogue products, as well as the income level of target consumers:

Determining the price level for a startup's product [2]

No	The price level for substitute products	Price level for similar products	Income level of target consumers	Upper and lower limits of the start-up product price

4. Organizational plan

Calendar plan-schedule of startup preparation [6]:

Startup stage	Start-up period (in months from the start of project preparation)					Costs, Thousand EURO
	1	2	3	…	n	
Pre-seed	…					…
Seed		…				…
Prototyping			…			…
….				…		…
Total					…	…

5. Production plan

Initial investments in a startup project:

Types of expenses	Cost
R&D	…
Protection of rights to intellectual property objects	…
Purchase of raw materials and materials	…
Creation of a prototype, experiments	…
Room rental	…
Promotion	…
Costs per team	…
Ordering services, mentoring	…
Purchase of equipment	…
Creation of a startup website	…
R&D	…
Protection of rights to intellectual property objects	
Purchase of raw materials and materials	…
Creation of a prototype, experiments	…

6. Risk assessment of a startup project

Identify the most dangerous project risks:

The threat of risk	Risk controllability		
	Uncontrollable risk (UCR)	Partially controlled risk (PCR)	Fully Controlled Risk (FCR)
Catastrophic risk (CR)	Risk name		Risk name
Critical risk (CR)	Risk name	Risk name	Risk name
Acceptable risk (AR)	Risk name	Risk name	Risk name

2 FINANCIAL MODEL [7-11]

TASK

Build a financial model for a startup project. For each table, provide a brief justification based on the results of the calculations.

Submit the results in Microsoft Excel

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1. Calculation of initial investments and initial data. There are two sub-items in this section: initial investments (table) and project operating data. It is necessary to model the development of the project for at least 3 years and forecast the values of the following parameters [7].

Initial investment in a start-up project

Types of expenses	Cost
R&D	
Protection of rights to intellectual property objects	
Purchase of raw materials and materials	
Creation of a prototype, experiments	
Room rental	
Promotion	
Costs per team	
Ordering services, mentoring	
Purchase of equipment	
Creation of a startup website	

2. Project operational data. A number of indicators are determined:

Revenue. Revenue per product may include the price of the distribution channel, in which case it is calculated as [7]:

$$S = P_k + \cdot Q,$$

where S – revenue;
P_K – sales channel price;
Q – sales volume in physical units.

Starting from the second month, use the result (number of units sold) of the previous month increased by the percentage of growth in the current period [7]:

$$N = N_{n-1} + N_{n-1} \cdot q,$$

where N – the number of units sold (month N);
N_{m-1} – number of units sold (month N-1);
$q_{\%}$ – *the* percentage of monthly growth.

It is worth noting that to determine the percentage of monthly growth for a startup, it is worth applying E. Rogers' diffuse mode.

Direct cost. The final value of the direct cost is then determined. In the case of a start-up project, it is assumed that production and sales volumes (per month) are equal.

Operating profitability. Operating profitability indicates the share of gross profit in the total value of project revenue [7]:

$$OR = \frac{PV}{S} \cdot 100\%,$$

where OR – operating profitability;
PV – gross profit;
S – revenue

.

Project operational data [7]

№	Indicator	The value of the indicator by periods												
		1 year												2 year
		1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Revenue (1.1.1+1.2.1)	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.	The main product, units sold.	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.1	Total revenue, EURO	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.2	Sold through the site, units	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.3	Sold through the site, EURO	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.4	Sold through representatives, units	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.5	Sold through representatives, EURO	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.	Related product, sold units	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.1	Total revenue, EURO	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.2	Sold through the site, units	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.3	Sold through the site, EURO	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.4	Sold through representatives, units	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.5	Sold through representatives, EURO	…	…	…	…	…	…	…	…	…	…	…	…	…
2.	Direct cost	…	…	…	…	…	…	…	…	…	…	…	…	…
2.1	Main product	…	…	…	…	…	…	…	…	…	…	…	…	…
2.2	Related product	…	…	…	…	…	…	…	…	…	…	…	…	…
2.3	Payment of logistics when ordering through the site	…	…	…	…	…	…	…	…	…	…	…	…	…
3.	Gross profit (1-2)	…	…	…	…	…	…	…	…	…	…	…	…	…
3.1	Operating profitability, %	…	…	…	…	…	…	…	…	…	…	…	…	…

3. Financial model. Further calculation of cash flows to the cash flow indicator or the net profit indicator is carried out.

The Operating Expenses block, which lists all the expenses of a startup project, determines the amount of money to be raised from the investor. In the financial model of a startup project, this amount is working capital, unlike other projects where the amount of investment is largely formed by the «initial investment» item [7].

To assess the effectiveness of a start-up project, the financial model defines a number of the following indicators.

EBITDA *(Earnings before interest, taxes, depreciation and amortization) For early-stage start-up projects, this indicator* determines how much money will be left before taxes and interest on loans [7]:

$$EBITDA = PV - C_1 - C_O,$$

where EBITDA – profit before interest, taxes, depreciation and amortisation of fixed and intangible assets;
PV – gross profit;
C_1– initial (priority) investments;
C_o – operating expenses.

Cash flow of the project. Net profit, or in other words, the project's cash flow, shows the project's cash deficit and determines the amount of investment required, which is determined based on the formula [7]:

$$NP = \text{EBITDA} - T,$$

where NP – net profit;
EBITDA – profit before interest, taxes, depreciation and amortisation of fixed and intangible assets;
T – taxes.

Net profit determines the amount that the project team distributes among themselves, and, based on its correlation with the amount of investment made in the project, the attractiveness of the business for a potential investor or partner [7].

Net profit on an accrual basis. Net profit on an accrual basis is the state of the company's account. At the beginning of the table, it will always be negative, as the purpose of calculating the financial model is to determine the deficit of funds generated by the startup project [7]. In more complex models, various discounting and net present value techniques are applied to the net profit figures, but in projects with a relatively small need for funds and in the early stages of a start-up project, no discount is calculated [7].

Subsequently, the financial model for subsequent periods of startup development is enlarged.

The financial model of the startup project [7]

№	Indicator	The value of the indicator by periods												
		1 year												2 year
		1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Initial investments	…	…	…	…	…	…	…	…	…	…	…	…	…
1.1.	R&D	…	…	…	…	…	…	…	…	…	…	…	…	…
1.2.	Protection of rights to intellectual property objects	…	…	…	…	…	…	…	…	…	…	…	…	…
1.3.	Purchase of raw materials and materials	…	…	…	…	…	…	…	…	…	…	…	…	…
1.4.	Creation of a prototype, experiments	…	…	…	…	…	…	…	…	…	…	…	…	…
1.5.	Room rental	…	…	…	…	…	…	…	…	…	…	…	…	…
1.6.	Promotion and test advertising	…	…	…	…	…	…	…	…	…	…	…	…	…
1.7.	Team and training costs	…	…	…	…	…	…	…	…	…	…	…	…	…
1.8.	Consultations and ordering services	…	…	…	…	…	…	…	…	…	…	…	…	…
1.9.	Purchase of equipment	…	…	…	…	…	…	…	…	…	…	…	…	…
1.10.	Development of a startup website	…	…	…	…	…	…	…	…	…	…	…	…	…
2.	Gross profit	…	…	…	…	…	…	…	…	…	…	…	…	…
2.1.	Revenue	…	…	…	…	…	…	…	…	…	…	…	…	…
2.2.	Direct cost	…	…	…	…	…	…	…	…	…	…	…	…	…
2.3.	Operating profitability, %	…	…	…	…	…	…	…	…	…	…	…	…	…
3.	Operating expenses													
3.1.	Office rent													
3.2.	Salary to managers													
3.3.	SEO promotion costs													
3.4.	Internet advertising costs													
3.5.	Media costs													
3.6.	Overhead costs													
3.7.	Remuneration fund													
3.8.	Payment of remuneration to representatives													
3.9.	Logistics costs													
4.	EBITDA													
5.	Taxes													
5.1	VAT, %													
5.2	Income tax													
5.3	Deductions from wages													
6.	Net income (cash flow)													
7.	Total net profit													

4. Investment attractiveness of a start-up project. After calculations based on the financial model, the investment attractiveness of a start-up project is determined by the following indicators [7]:

1) the amount of investment required is the cash deficit obtained from the modelling results. This is net profit with a «-» sign, i.e. a loss;

2) accumulated net profit is the amount of funds generated by the project during the calculation period. This amount is to be distributed among the project founders;

3) accumulated net profit over the invested funds. This profit is the amount of funds that remains after the modelling results, minus the funds that were invested in the project to overcome the resulting deficit. It shows how much money would be left for distribution if the investment were to be repaid in full. This amount is determined either by the total net profit for three years or the last figure of the net profit on a cumulative basis.

4) ROI - return on investment or project profitability. ROI answers the question «How much will be received for the amount of money invested in the project?». [7]:

$$ROI = \frac{ANP}{I} \cdot 100\%,$$

ROI – return on investment;
ANP – accumulated net profit (for a period of, for example, 3 years);
I – the amount of required investment.

5) Internal rate of return or IRR. According to the rules, this indicator is calculated based on the discounted cash flow data used to calculate NPV. But as noted earlier, in early-stage start-up projects with a small amount of required investment, several assumptions are made to simplify the calculation, one of which is the refusal to discount the cash flow [7]. This approach uses the already calculated net profit as the value of the present value or net discounted income. This line is used as the basis for calculating IRR [7].

6) the cost of a startup company before receiving funding. To evaluate it, you should use discounting and determine the multiplier (the ratio of the company's value to its revenue) [8]:

$$\text{Pre-money} = \frac{\text{Cash Flow}^{1\,pik}}{(1+d)^1} + \frac{\text{Cash Flow}^{2\,pik}}{(1+d)^2} + \frac{\text{Cash Flow}^{3\,pik}}{(1+d)^3} + \frac{S^{3\,pik} \cdot M}{(1+d)^3},$$

where Pre-money is – the value of the startup company;
Cash Flow – cash flow;
d – discount rate;
S – revenue;
M – multiplier

.

The multiplier helps determine the future value of a startup company. The multiplier increases the annual revenue of the second forecasted year and its value can be from 2 and is calculated as [7]:

$$M = \frac{\text{Pre - money}}{S},$$

where *M* – multiplier;
Pre-money – *the* value of the startup company;
S – sales revenue.

7) share of the investor. To receive investments, a significant indicator of the investor's decision-making is the investor's share, which is determined according to the given formula [8]:

$$I_{\text{pm}} = \frac{I}{\text{Pr}\,e - money + I},$$

where I_{pm} – investor's share of the startup's value;
Pre-money – the value of the startup company;
I – the amount of required investment.

The discount rate for startups is 40–60% and is calculated as:

$$R=rf+rp+i,$$

where *rf* – risk-free rate;
rp – risk premium;
i – inflation rate.

The cumulative risk premium, depending on the type of project, can be determined according to the data in the table below.

For startup project investors, it is advisable to determine the payback period of the investment (DPP) [9]:

$$DPP = \min n \Rightarrow \sum_{i=1}^{n} \frac{CF_i}{(1+r)^i} > IC$$

where DPP – (Discounted Pay-Back Period) – discounted investment payback period;
IC – (Invest Capital) – the size of the initial investment;
CF – (Cash Flow) – cash flow generated by an investment project;
r – discount rate;
n – project implementation period.

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WORKSHOP FOR TOPIC 6

ORGANIZATION OF A STARTUP: FROM A TEAM TO AN ENTERPRISE

CONTENTS OF PRACTICAL LESSON

①Case for discussion: Evaluating the results of mentoring
②Exercise: building a startup team
③Practical skills training: distribution of startup shares among participants

1 CASE

ANALYSIS OF MENTORING RESULTS [1; 2]

Based on the «Mentoring for GitLab» case study, draw up a conditional work plan/commitment with the mentor

Mentoring for Gitlab [1]

GitLab is an open-source software development platform. It allows many developers working on the same product in parallel to document and coordinate their work. The system makes «fingerprints» of all code files at a certain stage, which allows you to reconstruct the development process step by step for the necessary further modifications. In 2011, Dmitry Zaporozhets, a young programmer at a Kyiv-based IT company, decided to find a free alternative to the then-common but expensive GitHub development platform. The project was developed on an open-source basis, and dozens of programmers from all over the world used it and improved the product

together remotely. However, the decision to launch GitLab as a commercial project came only in 2014. Dmytro Zaporozhets was 26 at the time, and three years later he was included in Forbes' list of the most successful young IT entrepreneurs.

Shortly after founding the company, the Ukrainian and his partner Sid Sibranji from the Netherlands won a competition to participate in the three-month Y Combinator startup support programme in Silicon Valley. With the support of experienced mentors, the guys presented a convincing development project to investors and immediately raised several million dollars in venture capital. Today, GitLab employs several hundred developers from nearly 40 countries. They don't share a common office - everyone works remotely, meeting from time to time to discuss work issues and just have a good time. So far, GitLab has raised more than four hundred million dollars in investment, and VentureBeat has estimated the company's market value at $2.7 billion.

Form of work plan/commitment [2]:

Name of the mentee	
Host organization:	
Field of mentoring support:	
Name of the mentor:	
e-mail of the mentor:	

Objectives of the internship/mentorship program:

Description of activities/tasks:

Expected results:

Name and signature of the mentee

Mentor's name and signature

2 EXERCISE

FORMING AND SCALING A STARTUP TEAM

TASK

Form the team composition and tasks of its members at each stage of the startup's development, adding members at new stages of implementation:

https://www.freepik.com

Startup stage	Team member	Team member tasks	Education	Required knowledge	Involved in the core team or outsourced
Pre-seed					
Seed					
Startup stage					
Minimum viable product					
Product-market fit& product-channel fit					
Death of valley					
Product launch stage					
Growth and expansion stage					
The stage of doing business					

3 TRAINING OF PRACTICAL SKILLS

DISTRIBUTION OF SHARES IN A STARTUP AMONG PARTICIPANTS [3]

TASK

Distribute shares among the founders of your chosen startup using the method of F. Demler, professor of entrepreneurship at Carnegie Mellon University's business school:

https://www.freepik.com

1. Identify the main factors that determine the contribution of each participant to the creation of the startup. They may include, for example, the following (or others depending on the specifics of the project): participation in the development of the idea, participation in the preparation of the business plan, competence, involvement and risks of the participant, duties and responsibilities of the participant.

2. Determine the relative importance of the factors. For each startup, the ratio of the importance of the factors will be different depending on the specifics.

3. Assess the personal contribution of each founder.

4. Depending on the total weighted assessment of each founder, the share of his or her participation in the startup is determined by normalisation. A scale from 1 to 10 is used for the assessment:

Factor	Significance	Team Member1	Team Member 2	Total
Participation in idea development	7			112
Participation in the preparation of a business plan	6			24
Competence participant	3		6	
Participation and risks of the participant	0		2	
Obligations and responsibilities of the participant	0		0	
…				
Total				
Percentages			*18,0*	*100*

- *Data is given as an example*

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WORKSHOP FOR TOPIC 7

INVESTMENT SUPPORT FOR A STARTUP PROJECT

CONTENTS OF PRACTICAL LESSON

①The case for discussion: investment which ended in bankruptcy of the startup

②Training of practical skills:

- estimating the value of a startup using the scoring method;
- presentation and pitch of the developed startup project

CASE 1

INVESTMENT WHICH ENDED IN STARTUP BANKRUPTCY [1]

The story of the collapse of the British company Powa Technologies is quite typical for both London and Silicon Valley. The conflict between the founder and American investors of the British startup Powa Technologies ended with the bankruptcy of the company.

Powa was founded in 2007 by British entrepreneur Dan Wagner. The company received the largest Series A funding round for a technology start-up at the time, collecting $76 million in August 2013. The investment attracted the attention of David Cameron.

In June 2014, Powa Technologies acquired the Hong Kong business MPayMe and its ZNAP technology. Following the acquisition, Wagner suggested that Powa had an enterprise value of $2.6 billion.

In 2015, they announced that their planned LSE £1.6 billion float would be put on hold until the following year. By early 2016, the company had run into financial difficulties, missing payments to staff and third parties. Its Hong Kong office had failed to pay its

employees wages on time and to its ex-employees within 7 days, with some employees having to seek help from the Labor Department. On 28 January 2016, Alessandro Gadotti became CEO of PowaTag to restructure the business. During the administration, he also served as interim CEO for the Group, supporting the process and the sale of the companies in the group. On 19 February 2016, Powa Technologies was placed into administration, and on 23 February 2016, Powa Technologies made 74 of its London-based staff redundant. On 24 February 2016, Powa Technologies filed for bankruptcy and laid off most of its employees. The investment company Wellington Management appointed professional services firm Deloitte as administrator of PowaTag.

Business Insider revealed that most of Powa's 'contracts' had only been non-binding letters of intent; and on 2 March 2016, Sky News revealed that two of Powa's core businesses, PowaWeb and PowaTag, had been sold. Under separate deals, PowaTag was sold to a private consortium led by former Powa Technologies director Ben White, while PowaWeb was sold in a buyout backed by Greenlight Digital, a UK-based digital group whose interests include Greenlight Commerce Platform and OneHydra for SEO.

After the collapse of the business, a series of articles by the Financial Times called into question several of the claims that had previously been made. Powa's self-proclaimed 2014 valuation of $2.6 billion was investigated, and it was concluded that $106 million (£75 million) was a more accurate figure. The claimed «10-year strategic alliance with ‘limitless’ potential” deal with China UnionPay that Dan Wagner personally described in a quote to the BBC as “Why did China UnionPay decide to partner with a little British technology company? We’ve trumped ApplePay and the rest of the world here...” was found to be unknown to China UnionPay who had their lawyers request that Powa stop making the false claims and the majority of the partners upon which the investment and consequent valuation had been based, were found to be just Letters of Intent at best.

QUESTIONS

1. Who were the key investors of the startup?
2. What was the problem of the company's relationship with startup investors?
3. What were the consequences of inappropriate development of investments?

2 TRAINING OF PRACTICAL SKILLS

1 ESTIMATING THE VALUE OF A STARTUP [2]

TASK

Estimate the value of the selected startup from the investor's point of view using the method provided:

https://www.freepik.com

1. Evaluation of startup success factors. *Each group of factors must be assigned a weight that reflects the overall strength of its influence (in %, the total weight of groups of factors is 100%). Within each main factor, provide answers to the questions on a scale from +++ (very positive) to --- (very negative)*

Group weight	Effect of factor	Factors affecting the initial cost of the startup
1	2	3
0-30%	**The strength of the management team**	
	What experience do startup founders have?	
	+	Many years of experience in business
	++	Experience in this business sector
	+++	CEO work experience
	++	Experience in the positions of COO, CFO, CTO
	+	Product manager experience
	-	Evidence in sales or technology only
	---	Lack of business experience
	Is the startup founder ready as needed hand over project management to an experienced CEO?	
	---	Not ready
	-	Hard to convince
	0	Neutral
	+++	Finished
	Is the founder trainable?	
	---	No
	+++	Yes

Continuation

1	2	3
	How complete is the management team?	
	-	Only entrepreneurs are in the team
	0	The team has one competent manager
	+	The team is partially staffed by specialists
	+++	The management team is staffed completely and only by experienced specialists
0-25%	**Market size**	
	What is the size of the target market (expected sales volume)?	
	--	< 50 million dollars
	+	50-100 million dollars
	++	> 100 million dollars
	What is the growth potential of the market for the next five years?	
	-	< 20 million dollars
	++	20-50 million dollars
	-	> 100 million dollars
0-15%	**Product strength and intellectual property**	
	Is the product defined and developed?	
	---	Not fully defined, the prototype is still under development
	0	Well defined, the prototype looks interesting
	++	Good feedback from potential customers
	+++	Orders or early sales from customers
	How urgent is the need for the product for the startup's customers?	
	---	The product is "vitamin"
	++	The product is a "painkiller"
	+++	The product is a "painkiller" without side effects
	Can the product be copied by competitors?	
	---	Easy to copy, not protected by patent
	0	It is difficult to copy
	++	The product is unique and protected by a patent
	+++	Very strong patent protection
0-10%	**Competitive environment**	
	What is the nature of competition in the market?	
	--	One big player dominates
	-	A few players dominate
	++	Fragmented, many small players
	How competitive is the product?	
	---	Competitive products are excellent
	+++	Competitive products are weak
0-10%	**Marketing and partnership**	
	How defined are sales channels and partners?	
	---	Undefined sales channels
	++	Key beta testers have been identified and contacted
	+++	Channels are safe, customers place trial orders
	--	No partners have been identified
	++	The main partners have been identified

Continuation

1	2	3
0-5%	**Need for additional rounds of financing**	
	+++	Absent
	0	Business angel financing is needed
	--	Venture capital is needed
0-5%	**Other**	
	++	Other factors of positive influence
	--	Other factors of negative influence

2. Evaluation and ranking of factors. The influence of each group of factors is calculated as:

Factor indicator = maximum factor value × startup factor value

3. Determining the value of a startup for purchase by an investor is defined as:

Startup cost = sum of factors × average score.

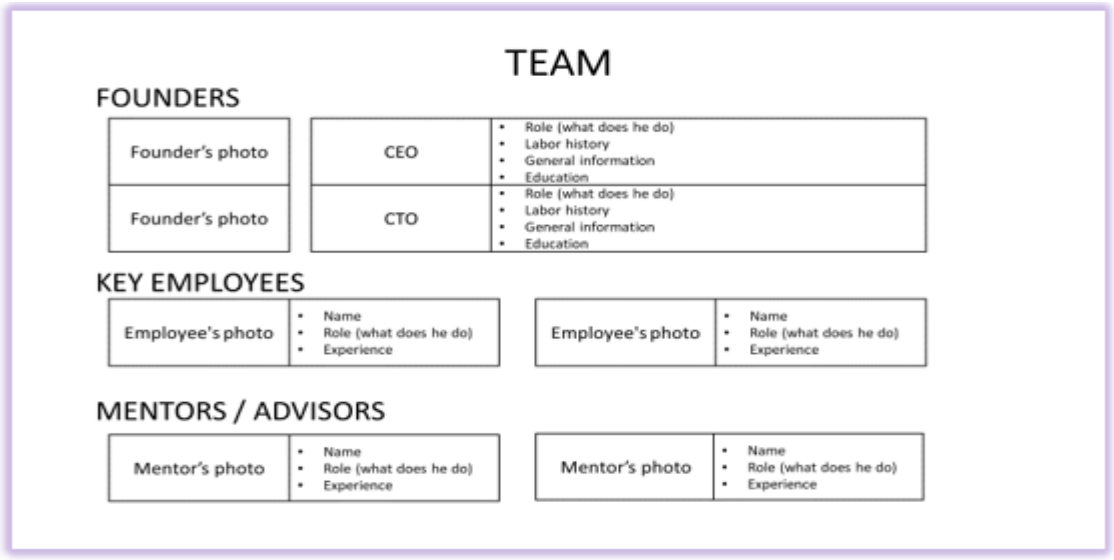
2 PRESENTATION OF THE STARTUP [3]

TASK

Prepare a presentation of the selected startup for a potential investor:

https://www.freepik.com

(a)



(b)

PROBLEM / ALTERNATIVE SOLUTIONS

Problem: What is the **pressing** problem in the market? What is the unmet need? How big is this problem (in terms of money, time, effort)?

«Sell the problem, not the solution." – Dave McClure. "Solve the customer's #1 problem" - Cyrus Massomi (CEO ZocDoc). Not the 4th, not the 10th...Why are clients so concerned?

Alternative (existing) solutions: What is the biggest limitation in the market and which solution do you compete with the most? The status quo that you are going to change.

Conclusion: The market is so big that the current solutions do not satisfy / do not solve the existing needs / problems of customers, so we have a big opportunity.

(c)

YOUR SOLUTION / PRODUCT

VP: Tell us about the key value proposition for the client (how much your solution is more effective than alternative solutions: faster, better, cheaper or how much it allows you to earn).

Solution: Tell us about your solution, or better show your service or product.

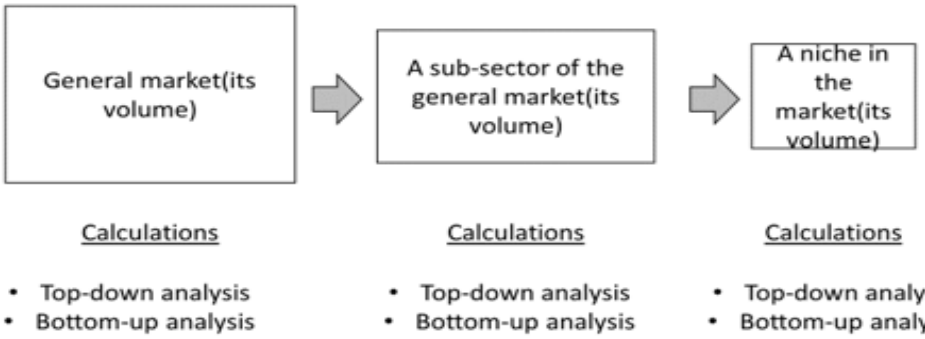
Screenshots: Key parts of your product/service.

Storytelling: Tell a story about your customer's future or a current customer/user case.

"Secret sauce": Your non-market competitive advantage that makes you unique and gives you more than 6 months of competitive advantage.

(d)

MARKET/ OPPORTUNITIES



It is necessary to describe the market of the company (general, sub-sector of the market and niche in the market). The number of customers, users, sold goods and services. Size in monetary terms and growth rate

(e)

CLIENTS AND SEGMENTS

Portrait of the target customer/user: Describe who your customer is, how they understand the solution, what budget they have to solve the problems you plan to solve.

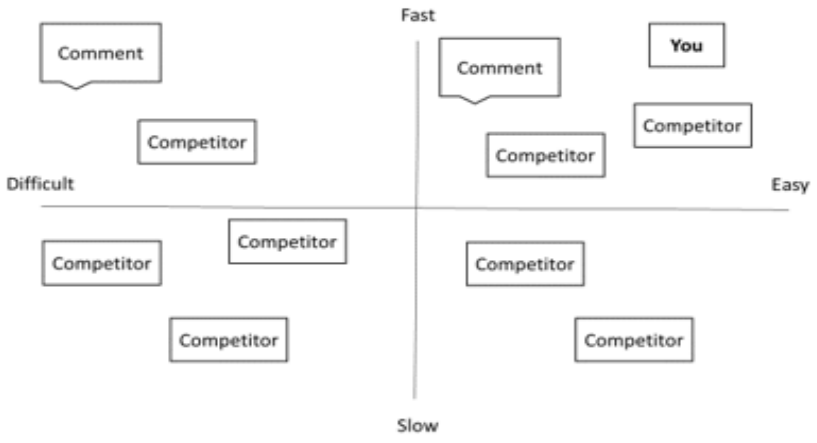
If B2B: Chain of decision-making. Who is the user, who is the OPR (decision maker), is there consistency with lawyers and the financial director, who is the owner of the budget and their values.

Use Case: Describe the situation when the customer/user is facing the problem and how they are solving it now.

Portrait of an Early Adopter: Describe the archetype of your most ideal customer. Who is most concerned about an unsolved problem.

(f)

COMPETITIVE ENVIRONMENT / ECOSYSTEM

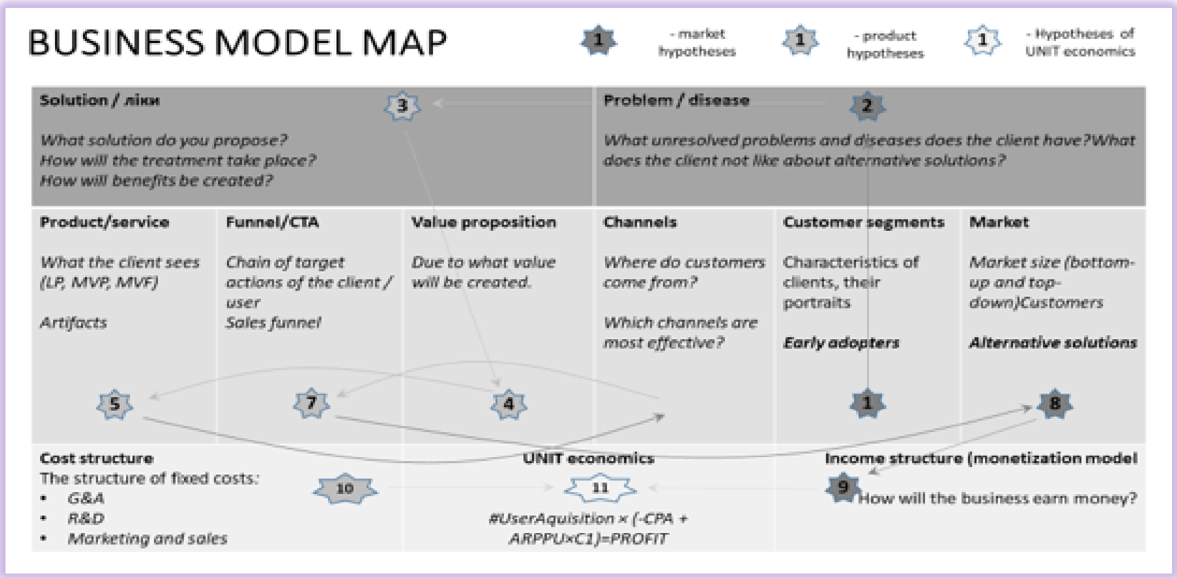


(g)

COMPETITIVE ANALYSIS

COMPETITOR	FINANCING	FOCUS	DIFFERENCES
(THE COMPANY NAME)	(AMOUNT, MILLION DOLLARS) (INVESTOR COMPANY)	(MARKET) (TA)	What are the key differences between markets, companies, teams, etc.
(THE COMPANY NAME)	(AMOUNT, MILLION DOLLARS) (INVESTOR COMPANY)	(MARKET) (TA)	What are the key differences between markets, companies, teams, etc.
(THE COMPANY NAME)	(AMOUNT, MILLION DOLLARS) (INVESTOR COMPANY)	(MARKET) (TA)	What are the key differences between markets, companies, teams, etc.
(THE COMPANY NAME)	(AMOUNT, MILLION DOLLARS) (INVESTOR COMPANY)	(MARKET) (TA)	What are the key differences between markets, companies, teams, etc.

(h)



(i)

FINANCES

	Year 1	Year 2	Year 3	Year 4	Year 5
Target market					
Users/customers					
Active users after churn					
Market share, %					
Revenue (GROSS), thousand USD					
Costs, thousand USD					
Variable, thousand USD					
Fixed, тис. грн.					
Revenue (NET), thousand USD.					
EDITDA, thousand USD					
EDITDA Margin, %					

(j)

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WORKSHOP FOR TOPIC 8

LEGAL PRINCIPLES OF IMPLEMENTATION OF A STARTUP PROJECT

CONTENTS OF PRACTICAL LESSON

①Case for discussion: Google is a leader in patenting and innovation.
②Training of practical skills: drawing up an application for copyright registration of a work.
③Exercise: the cooperation agreement of the founders.

CASE 1

GOOGLE IS A LEADER IN PATENTING AND INNOVATION [1]

18 years ago, September 15, 1997. the Google.com domain was registered. The founders of the search engine, Larry Page and Sergey Brin, took the mathematical term googol, which means a unit with 100 zeros, as the basis of the name, to express the enormity of the amount of data they will have to work with.

https://www.freepik.com

Today, Google is a multinational corporation that owns various services in the field of Internet search, communications, cloud and advertising technologies. According to the BrandZ rating of TOP-10 global brands in 2015, the Google brand is the second in the world after Apple. The corporation owns more than 320 trademarks and 2,566 patents for inventions (data of 2014), the company is in the top ten rating of TOP50 US patent holders. The free US patent database www.google.com/patents contains information on 7 million patents.

In the spring of this year, the Patent Purchase Promotion experimental portal accepted applications from patent owners. The company received thousands of offers, and

almost a third of them were bought from the owners. The average bid price is reported at $150,000, but some bids have been valued at more than $1 billion, and one even at $3.5 billion. The lowest price for a patent was $3,000; the highest - $250,000. A quarter of applications were submitted by inventors as private individuals, three quarters by companies and brokers.

In July 2015, the company announced a new initiative: the Google Patent Starter Program, which claimed to help startups fight patent trolls. The idea is as follows: Google will give 100 patents for free to the first 50 companies that manage to submit applications within a month and that fit the requirements of annual turnover in 2014 from $500,000 to $20 million and membership in the LOT Network community. The lucky winners will receive 2 patents to choose from 3-5 corresponding to their field of activity.

On August 10, 2015, the company announced the birth of its new brainchild, Alphabet Inc., which will replace Google Inc. in all financial and public relations. By the end of 2015, it is planned to gradually withdraw all units not directly related to Internet business.

Previously, we wrote about how to patent a startup in Ukraine and how to sell your invention. You can also familiarize yourself with the technologies and patents of our inventors on our website in the Inventions Exchange section.

QUESTIONS FOR DISCUSSION:

1. What kind of copyright did the company start with?
2. Why is the company so active in patenting and other protection of intellectual property rights?
3. What influence does the company have in helping startups patent?

EXERCISE 2

AGREEMENT ON COOPERATION OF THE FOUNDERS [2]

TASK

Get acquainted with an example of an agreement on the cooperation of startup founders and form a similar agreement for the selected project:

We, the undersigned, [*details of each founder*], (each of whom is hereinafter referred to as the "Founder" and collectively as the "Founders") have decided to cooperate to jointly develop a business concept for [*project name*] (*hereinafter referred to as " Business concept»*)

The presented business concept is the subject of this agreement on the cooperation of the founders (hereinafter referred to as the «Agreement»):

[*Project name] is [project description].*

Taking into account the mutually beneficial principles of activity regarding the development of the Business Concept, we, the undersigned, agree:

1. Obligations of the Founders and Creation of the Company

1.1. *Obligations of founders.* The founders undertake to perform the following actions regarding the development of the Business Concept:

[founder 1] – [obligations of founder 1],

[founder 2] – [obligations of founder 2]

[founder N] – [obligations of founder N].

1.2. *Property*. The Founders own the Business Concept by this Agreement. The founders will implement the Business Concept into the activities of the limited liability company [company name] (hereinafter referred to as the «Company»), which will be formed by the founders under the following circumstances: [circumstances under which the project will be converted into a company].

1.3. *Transfer of rights*. Each Founder assigns to the Company immediately upon its formation all of its rights, title and interest in and to the Business Concept, including all ideas (whether formed or unformed), work products and results of any task or work related to the Business Concept.

1.3. *Consent to future transfer of rights*. Any future agreement that requires the transfer of an ownership interest in the Business Concept to a third party before the formation of the Company must be agreed to by each Founder. In the case of concluding such an agreement, the obligations of this Agreement must be disclosed to a third party.

2. Business structure and ownership

2.1. *Ownership structure*. After the formation of the Company, the participation of the Founders in the Company is determined as follows:

[founder 1] – [share of founder 1] %,

[founder 2] – [share of founder 2] %,

[founder N] – [share of founder N] %.

2.2. *Future employees*. If the Founders decide to allocate a share in the Company to future employees, such share reduces the share of all Founders equally.

2.3. *Management of the Company*. After the formation of the Company, each Founder will be appointed to perform certain management functions in the Company.

2.4. *Rights of founders*. Each Founder will have the same rights, including but not limited to voting and distribution rights, in proportion to his share as defined in clause 2.1.

2.5. *Sale of the Company*. The sale of the Company to an interested third party is possible with the approval of the Founders under the requirements of current legislation.

3. Confidentiality

3.1. The founders undertake to keep the Business Concept confidential. Founders can disclose the Business Concept only if necessary and with the consent of all other founders. After the Company is established, the Founders may detail and define any additional confidentiality obligations.

4. Communication and dispute resolution

4.1. *Schedule.* If the Founders have not yet established the Company within 12 (twelve) months after the execution of this Agreement, they are given 30 (thirty) additional calendar days to take steps to establish the Company. If no action is taken within that time, the Founders will enter into a severance agreement that will separate the rights to the Business Concept and any other assets accumulated by the Founders during the development of the Business Concept. The following confidentiality obligations related to Business Concepts are outlined in the separation agreement.

4.2. *Mediation*. If the Founders are unable to agree on a severance agreement, the Founders shall submit to binding confidential mediation to be held at [name of mediator] and conducted with the consent of the mediator. All provisions of this

Agreement, including the confidentiality provisions, will be binding upon the conclusion of the mediation process. Mediation costs will be borne by all founders in proportion to their participation.

4.3. *Note*. *[Actions are determined in the event of misunderstandings and disagreements between the Founders according to the Business Concept].*

5. Representations and warranties

Each Founder represents and warrants that it is not a party to any other agreement that would limit its ability to perform its obligations under this Agreement.

Each Founder represents and warrants that no third party may claim any intellectual property rights or other proprietary rights held by such Founder relating to the Business Concept.

6. Choice of law

This Agreement shall be construed and interpreted in all respects under the laws of *[country]*.

By signing below, the Founders confirm their agreement to all of the above terms.

[Founder 1] – [details and signature of founder 1], [date]

[Founder 2] – [details and signature of founder 2], [date]

[Founder N] – [details and signature of founder N], [date]

3 TRAINING OF PRACTICAL SKILLS

APPLICATION FOR REGISTRATION OF A COPYRIGHT IN A WORK [3]

TASK

Please fill Application for Registration of a Copyright in a Work according to the startup chosen for the study:

https://www.freepik.com

1. **Title of the work:**
Enter the title of a single work. Descriptive matter that does not form part of the title should not be included.

2. **Category of the work:**
Select the category that best describes the work.

- ☐ Literary (works consisting of text, i.e., books, pamphlets, computer programs, etc.);
- ☐ Musical (musical compositions, with or without words);
- ☐ Artistic (paintings, drawings, maps, sculptures, plans, photographs, etc.);
- ☐ Dramatic (screenplays, scripts, plays, films, etc.).

3. **Publication:**
Select whether the work is published or unpublished. If the work is published, enter the full date (year, month and day) and the place of first publication.

☐ The work is unpublished

OR

☐ The work is published

Date of first publication (yyyy/mm/dd):

Place of publication:

City/Town

Province/State

Country

4. **Owner:**
Enter the name and address of the owner of the copyright. To add additional owners, please attach a separate sheet.

Family name

First name

OR Name of other legal entity

Address

City/Town

Province/State

Country

Postal/Zip Code

OPTIONAL INFORMATION

Telephone

Fax

Email Address

5. Author:

Enter the name of the author of the work. ***Note:*** *The individual who created the work should be named as the author except in the case of a photograph, where some other legal entity can be named. To add additional authors, please attach a separate sheet.*

☐ **Same as owner** - Select if the author information is identical to the owner information, and proceed to Section 6.

Note: A corporation should not be named as an author, except in the case of a photograph.

Family name | First name

OR Name of other legal entity

If deceased, date of author's death (yyyy/mm/dd):

OPTIONAL INFORMATION

Address

City/Town | Province/State

Country | Postal/Zip Code

6. Declaration:

I/We hereby declare that the applicant is:

- ☐ the author of the work;
- ☐ the owner of the copyright in the work;
- ☐ an assignee of the copyright;
- ☐ a licensee of the copyright.

7. Agent (if applicable):

This section is to be completed only if the application is being submitted by an agent acting on behalf of the applicant.

Family name | First name

AND/OR Name of firm

Address

City/Town | Province/State

Country | Postal/Zip Code

OPTIONAL INFORMATION

Telephone | Fax

Email Address

8. Fee:

In accordance with Item 1 of the Tariff of Fees, the prescribed fee is required for each application for registration of a copyright. Payment should be submitted at the same time as the application using CIPO's Fee Payment Form. Please see the "Assistance" page for further details.

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3. Application for Registration of a Copyright in a Work. Copyright Office Canadian Intellectual Property Office URL: https://ised-isde.canada.ca/site/canadian-intellectual-property-office/sites/default/files/attachments/2022/DA-CR-form1-eng.pdf

WORKSHOP FOR TOPIC 9

SCALING AND STRATEGIZING STARTUP

CONTENTS OF PRACTICAL LESSON

①Case for discussion: The Future of Samsung Innovation Open to Startups.
②Exercise: defining the Pivot model
③Practical skills training: formation of a startup road map

1 CASE

THE FUTURE OF SAMSUNG INNOVATION OPEN TO STARTUPS [1]

SSIC is not just a typical investment fund. Access to the resources of a technology giant like Samsung is a great opportunity for start-ups. By investing in the company, SSIC is looking for mutual benefit: will the investment bring real value, particularly in open innovation, to Samsung?

«We have to keep everyone's interests in mind,» said Shankar Chandran, head of the Samsung Catalyst Fund (SCF), SSIC's investment arm, «On the one hand, we have a vested interest in the success of all startups, and on the other hand, as Samsung employees, we have to think about the benefits to the company. SCF's small team of just 10 people follows its approach. Every year, the team meets with 1500 startups and selects 100 of them for a second interview. Only 15-20 companies are included in the funding programme.

Support for joint projects accounts for the largest share of SCF's investment decisions. This is closely linked to the idea of open innovation, an initiative to identify and develop the technologies and infrastructure of the future. Another key objective of SCF's investments is to identify the company's foundation and understand its operations and the level of competence of its leaders before entering into a deal. Finally, SCF makes its investment decisions to be aware of all the processes taking place in the growing field of the Internet of Things. SCFs may not take on a company right away, but they may invest to gain new knowledge in a particular area to maintain their leadership position. Chandran gives an example from a current project: «We are currently investing in a company that deals with proteomics: a technology that allows us to determine the content of proteins in the blood with high accuracy. This allows us to diagnose cancer at an early stage. It is quite possible that chip technology can be incorporated into this company's products, and Samsung is the largest chip company in the world. We may not start working with the company today, but when they are ready for changes, we will be the first to offer them our cooperation.»

SSIC has a broad view of all major areas: «We answered two important questions and selected five strategic technology areas: what is the best way for Samsung to become a leader quickly, and how can we most effectively achieve maximum growth?» said Chris Bain, head of IP strategy at SSIC. These areas include:

- The Internet of Things: due to the diversity of its product line, this is a critical area for Samsung;
- cloud and on-premises storage: tactically, these are key areas for the company as more and more cloud and on-premises storage is moving to flash and semiconductor drives, devices in which Samsung has extensive experience. Innovations in this area will create new business models;
- smart devices: thanks to Samsung's experience in smart technologies and the huge potential for their development, the company plans to further expand its presence in this area. New smart devices will be able to analyse the environment, learn and eventually fully interact with people;
- smart health: technical devices are becoming increasingly focused on human biology, and the study of human health is becoming more computerised. The process of studying human health will be built on these two key trends;
- privacy and security: these concepts will form the basis of future innovations.

The Samsung NEXT team has been bringing new ideas to life for more than 80 years and has extensive experience in creating and developing start-ups. The accumulated knowledge and the company's commitment to startup innovation shape its mission: to develop Samsung as a high-tech company with a broad profile, exceeding traditional user expectations from Samsung.

While many companies in Silicon Valley have separate divisions that focus on startup incubation, investment and acquisitions, Samsung NEXT combines all of these areas. Thanks to this unique approach, startups that are at the very beginning of their application or service development journey can start working with Samsung at any time, and NEXT is ready to partner with entrepreneurs at every stage of startup development. «If our venture capitalists see a startup with a promising product and team that is not yet developed and has not fully defined its product niche, they can invite our team to invest in this startup at the initial stage,» said Lenz. «This approach allows us to best organise work with talented entrepreneurs and offer Samsung resources to the largest number of promising startups.

Samsung NEXT is investing through a dedicated $150 million fund to finance early-stage startups. The fund seeks to invest in teams and ideas that align with Samsung's goals and priorities. After the investment, the NEXT team works closely with the startups to create partnerships that will help Samsung strategically and provide a return on investment for entrepreneurs and investors. The investments support Samsung's current business initiatives but, most importantly, have the potential to create new, promising business opportunities.

«Given the range of interests Samsung has, we are investing in many areas. We are particularly interested in artificial intelligence, the Internet of Things, augmented reality/virtual reality, security, mobility and health,» said Brandon Kim, Managing Director of Samsung NEXT Ventures, «However, the team and the idea of the startup are the highest priority. With these two factors in mind, we will be able to achieve success and contribute to Samsung's future development»

Samsung NEXT primarily invests in US-based companies as well as Tel Aviv-based start-ups and is also exploring new opportunities in Asia and Europe.

In the case of acquisitions, Samsung NEXT not only manages the process but also helps with the integration of the startup into the company. Therefore, when analysing a startup's suitability for Samsung, the Samsung NEXT team finds out how well the product, team, and processes will fit into Samsung's structure.

A successful example is the acquisition of Loop Pay in 2015. Based on the results of the analysis, Samsung NEXT realised that outdated systems were an obstacle to entering the mobile payment market and found a company that could solve this problem in a unique and promising way. However, the first step was to find the right partner. The process started with an investment and ended with a partnership with Samsung's mobile business. Lenz explains: «In the case of Loop Pay, we didn't go straight to an acquisition. We always act in such a way that the issues are resolved favourably for both Samsung and startups. This requires close cooperation with the startup, Samsung's divisions and internal teams, and can only happen if the team is

united by a common vision of its task» Loop Pay has evolved into Samsung Pay, a payment service that is launching in various countries around the world.

In other notable examples, Samsung NEXT led the acquisition of Viv Labs, an open-source artificial intelligence platform. In 2016. Samsung NEXT completed the acquisition of Joyent, a cloud computing company. The purpose of this step was to develop cloud services, functionality for Samsung smartphones and Internet-connected devices.

Samsung NEXT believes that each acquired company should find the right place in Samsung - it can become a separate division or part of Samsung NEXT, such as SmartThings, a smart home technology company that Samsung NEXT acquired in 2014. These acquisitions, as Lenz explains, should not be seen in isolation, but as part of the comprehensive development of Samsung that Samsung NEXT seeks to promote.

QUESTIONS FOR DISCUSSION:

1. What approach does Samsung use for its innovation development? Explain the essence of this approach.
2. What strategy of interaction with start-ups does Samsung use?
3. Describe the possibilities of scaling a startup when interacting with Samsung NEXT.

EXERCISE

DEFINITION OF THE PIVOT MODEL [2]

TASK

Study the MoneyHero example of using a pivot. Determine the model of pivot for each of them. Record your results in the table below:

https://www.freepik.com

Pivot on the example of the MoneyHero startup [2]

As practice shows, a business idea usually comes to fruition at least after significant refinements, and most often only after a pivot - a complete restart of the startup, accompanied by a radical change in the business model.

When MoneyHero joined the Accelerator, the project was 6 months old. «We were selected for the third round with a project that was an aggregator of financial loans for individuals» says Anton Utekhin, co-founder of the project. What was the essence of the idea? The field of microcredit is such that an application is likely to be rejected. To increase your chances, it is better to leave an application on several websites of different companies at once. On each of them, you need to fill in the same questionnaire from scratch. «It's not very convenient for many people to do this. That's why we decided to create a website where you fill out one, most complete questionnaire, and it is sent to all microfinance organisations (MFIs). We focused on companies that issue loans online»

According to the founders' plan, microfinance organisations were to pay the service for attracting clients from 1% to 3% of the amount of the loan issued. The risks of loan defaults were on the partner's side, and the model was interesting in this regard.

To test a potential market using the Lean Startup methodology, the team had to calculate the cost per action (CPA) and average revenue per user (ARPU). In the case of MoneyHero, these metrics depended on the percentage of conversion to registration, the percentage of conversion to completed questionnaires, and the percentage of conversion to loans. Traffic was driven by contextual advertising. The team calculated that with a CPA of 30 units, the site could attract an audience of one thousand people with a conversion rate of 31% to subscriptions and 7% to completed questionnaires.

The accelerator immediately set the bar high - by the end of the acceleration, the project had to earn at least 1 million units per month to be considered for a Seed round of investment. To check whether the project would be able to meet this requirement and whether customers needed this product at all, MoneyHero posted a questionnaire on its website, which was created using a third-party service. The team was going to manually enter the applications into the questionnaires on the partners' websites.

In this way, the company wanted to find out the following things: how many completed questionnaires would be converted into loans; how many users who filled out the questionnaire would already be registered with an MFI. The latter point was particularly important because, during negotiations with MFIs, a limitation arose - all but one company was not willing to pay for repeat clients. This called into question the economics of the project.

In line with the new logic, the team placed a questionnaire on the website and updated the website itself to increase the conversion rate of the questionnaire. At first, the test results were not so bad, given that the questionnaire was made in a hurry:

Funnel	Amount	Percentage
Events	809	100
Registration	322	39,8
Go to the questionnaire	141	17,4
Filled in the form	52	6,4

«And so we began to manually transfer these 52 questionnaires to the partner websites. It took our employee 3 full working days to do this. In the process, we faced the fact that almost all MFIs had SMS verification of phone numbers. So we had to call each client and ask what SMS code they had received. And some companies had 2 SMS codes ... «, says Anton. The company found that in 60% of cases, clients were already registered with large online MFIs.

Later, the startup managed to agree with one of its MFI partners on API integration, which took about a month. «When it was completed, we tested the audience automatically and found out that 92% of our website visitors were already registered on this partner's website.» Of those who were not registered, no loans were issued to anyone. «The main mistake we made at this stage was believing the MFIs themselves that they lend to an average of one-fifth of all clients. Later, these figures were not confirmed. And initially, our economy was built on them and on the assumption that we would also be paid for repeated applications from the same MFI clients,» Anton Utekhin said.

Of the eight partners, only one agreed to pay for repeat applications through the MoneyHero website from a client already in their database. The contextual advertising channel was practically «chosen» by large online MFIs. The audience from alternative channels (social media) did not leave the questionnaire. The total income from those clients who were approved for a loan did not cover the total costs of not attracting the entire client base.

The economics of the «Questionnaire for a loan» were interesting only if the traffic volume was at least 25 thousand per month and the conversion rate to loans was 7%. «Then we could have achieved a turnover of 1 million USD per month, which is the minimum amount that investors and accelerators might be interested in. The traffic issue could still be resolved somehow, but the conversion to loans was almost 0% on a global scale,» the project co-founder sums up.

Conclusions. If you are not fully confident that you know the pitfalls of the area in which your project will operate, try (and preferably the sooner the better) to test the project in practice. Your quite optimistic financial forecasts may ignore several conditions that

will be extremely difficult (if not impossible) to predict at first (in the absence of special knowledge of the industry). The example of MoneyHero clearly shows how a seemingly logical scheme turns out to be unviable in reality. However, the MoneyHero team is familiar with the Lean Startup methodology. They created a minimum viable product, which allowed them to save time and resources for further work at the accelerator.

Pivot one - Testing the new market took two weeks. Several facts indicated the prospects of the loan market for legal entities. As of the end of the first half of 2014, the volume of the microloan market for legal entities was 18.2 billion units, which is less than loans for individuals (28 billion), but also not bad. The commission was the same - 2-3% of the loan amount. But! The average loan cheque for individuals is 10 thousand USD for one or two weeks, for legal entities - about 300 thousand USD for a month or two. There are no online loans in this market, but companies only need the borrower's contacts, as they have already met the client themselves. Using the experience gained earlier, the team negotiated with 8 companies in a few days and agreed with the three largest partners (capable of covering a large geography of lending) on what would attract customers for them. MoneyHero also purchased a new domain and built a new landing page. After that, we launched advertising, collected 300 relevant applications for UAH 120 million, and gradually transferred them to partners. After 2 weeks of testing, the following data was obtained:

Funnel	Amount	Percentage
Events	2107	100
Questionnaires	315	14
Loans disbursed	1	1
ARPU	0,23 c.u.	6,4
CPI	30 c.u	

The startup had a clear problem with lending. It was still possible to work with conversion, but the team had limited tools to deal with loans. The company decided to analyse the situation:

Period	In progress, %	Convince, %	Convince, % Scoring, %	Rejection, %	Client disappeared, %	Loan disbursed, %
18.07-24.07	56,45	11,29	6,45	11,29	12,90	1,61
25.07-31.07	59,26	9,26	5,56	12,96	12,96	0,00
01.08-07.08	57,14	0,00	14,29	14,29	14,29	0,00

From the first day, the team tracked the sales funnel and constantly asked partners about the status of the sent questionnaires. The status was monitored by weekly

cohorts. Logically, over time, customers from the «In Progress» status should have moved to the right, but this did not happen. Anton explains: «We clarified the information. The main reason was 'clients do not get in touch'. The next day we called these clients. From the first call, 70 per cent of clients answered us and said they had not communicated with the MFI. Our partners did not deceive us, but the quality of their operators' work was questionable»

The startup attracted customers who filled out loan applications for a total of 120 million USD, while the market is worth 18 billion USD. «Roughly speaking, we grabbed almost 0.7% of the market in three weeks» This fact, combined with point 1, could indicate a large imbalance: the demand for loans far exceeds the supply.

The main reasons for the failure to issue an application were rejection by the security service of the partners and failure to pass the scoring. «There can only be one conclusion here - our audience was not of high quality for these partners. There was still an option to go offline. We didn't do it because it required large investment costs» comments the project co-founder.

Another weakness of the business model was that payments were made only for new customers who received a loan. At the same time, 10% of the 300 applications were repeated - better than in the case of individuals, but also an inefficient development model: at some point, the channels for attracting customers would have been exhausted. The company did not earn any money.

Conclusions. The transition from the B2C to the B2B sector is a fairly popular pivot practice, not without its subtleties, but quite viable in general. First of all, this is usually associated with the likelihood of reducing pressure from competitors (when it comes to e-business) - mainly due to the saturation of the B2C market. On the other hand, as John Bischke, CEO of Entelo, rightly noted: «If you find and solve a problem that is relevant to a thousand B2C customers, you are unlikely to succeed... But if you solve the problem of a thousand B2B customers, you will have a very viable company on your hands. So even if you solve a problem for a hundred companies, your business will be viable» This is one of the main advantages of the B2B market: it is easier to segment, easier to reach (it took the company three weeks to reach 0.7% of the market), clients in this area operate with larger funds, and their solvency is usually higher (in our example, the average loan cheque for legal entities was 30 times larger than the average cheque in the B2C segment). Such a change in the course can be attributed to the change in the customer segment pivot and the business architecture pivot according to the E. Rees pivot classification. Nevertheless, ignorance of the same «pitfalls» of the microcredit sector prevented the idea from achieving the planned return.

Pivot Two - Testing the new business model took three days. «We started to think about what else we could try to make money on, and we thought that re-lending to individuals was an interesting topic» Testing the business model of the NetCredits service took three days. On the first day, the website was created using a website builder, and on the second day, traffic was attracted to the site. On the third day, the team processed these customers to understand how many of them would take advantage of the offer and calculated the funnel. They were going to earn money from customers (500 USD per solution) and lead generation for banks. The project was discontinued because the sales process was too long. «Most people do not yet understand what re-lending is. They need personal consultations, but even they don't always help convey the meaning» explains Anton Utekhin. According to the financial model of the project, to earn at least 50 thousand USD, it was necessary to attract 1,000 leads. And this is without taking into account CPA. «It would have been possible to increase profitability through lead generation, but... Only 1 out of 15 customers who went to the bank's website filled out a loan application and was not approved.

Conclusions. In practice, the MoneyHero team found out that it was impractical to develop the project in the chosen direction. This situation is extremely painful for the team, primarily psychologically: a complete change of course calls into question the meaning of the startup's existence.

Pivot three: two weeks before the end of the acceleration. «On 29 August, we finally established the idea that none of these projects would be profitable. We decided on the third and biggest pivot: our new project was not related to finance at all.» The team came up with EasyScript, a service for visualising scripts for telemarketing and incoming calls. «The message was: what could be relevant to all those who were sitting here with projects? What did we personally have a lot of difficulties with? The answer was simple: phone calls. We used mind maps and logical conversation flowcharts ourselves» The conversation scripts created in this way were convenient and made it easy to navigate the conversation. «So we thought, why not create a cloud service that would allow us to create sales scenarios over the phone? And then show them to the operator» The service's task is to handle incoming and outgoing calls. How to do it? First, the service creates a scenario in the form of a diagram with possible options for responding to the client. What task does the service solve besides the added value of a simple interface? Usually, we see only two figures - the number of calls and the number of sales. But EasyScript allows us to open the curtain and find out what is between them - why calls are interrupted and at what point in the conversation.

The team started testing the market. First of all, the team printed out their scripts and contacted other projects, presenting the idea to them. «At this stage, we found two potential clients. We implemented the EasyScript model on the TypeForm survey

service» Only after that did the team start working on the website. The landing page was built on the Wix builder, and as soon as it was ready, the project participants immediately shared it on social media. The team interviewed all registered customers to identify the need for telemarketing.

After the demo was created, customers were given free weekly access. The project team helped them develop scripts and transfer their scenarios to the service. A week later, customers were informed about the price of use (the full price was 3 thousand USD, now it is 1 thousand USD, as the project team has not yet fully implemented all the functionality). The goal is to confirm the value of the service. Many people are interested in it for free, but everyone needs solvent customers. «Currently, 6 out of 56 customers are paying, and another 23 are testing it - a good conversion rate.» «We also track customer engagement by examining the number of scripts in their accounts. If a client has created a script, he is interested. If not, we ask why and offer to help them get started»

«We tried to assess the market, but we had a difficulty. How can we understand how many script creation services are sold in the sales consulting market? We know that the volume of the consulting market is 34 billion USD, we know that the number of relevant queries in the search engine is about 10 thousand, and we are not yet fully aware of what is in between»

Conclusions. The following conclusions can be drawn from the acceleration (and three pivots) of the MoneyHero/EasyScript startup. Strive to develop a scheme that will allow testing of the business model as soon as possible. «We tested the first business model for a month, the second for 2 weeks, and now it takes us three days to get the first results» First, try to sell the product, and then start programming. There may not be a full-fledged product, but it is better to confirm its value in advance so as not to waste time and resources. It's a shame to make a good product that no one wants.

Use E. Rees' Lean Startup approach or other methodologies that use the concept of a minimum viable product. «We decided to try to sell an unfinished product for less. To confirm the demand, the website can be made on a construction kit. If the idea is successful, then we will move forward with the technical specifications and development» Only numbers can tell you how effective a project and idea are, so it's better to put subjectivity aside and calculate metrics.

It's very difficult to destroy non-working projects, but sometimes it's better to stop in time. The numbers will tell you when to do it. For example, EasyScript's hypotheses were as follows:

- Will the first 5 customers show up?
- Will the project be able to convert 30% of website traffic into scripted sales?
- Will people buy for 3 thousand per script?

- Where to get 700 people per month?

Ambitious goals are better than realistic ones: 500 thousand for the goal of 1 million units is more than 110 thousand for the goal of 100 thousand. Besides, large numbers immediately indicate bottlenecks in the financial model.

When working on a project in a field whose pitfalls are unknown to you, try to minimise the number of external elements in the business model and the dependence of results on them. «After working on the project, we decided that it would be better to create a model in which key indicators depend only on us, not on partners. That's why we sell the new product ourselves»

Table for entering analysis results

The Pivot model	Pivot I	Pivot II	Pivot III
Zoom-In Pivot			
Zoom- Out Pivot			
Customer Segment Pivot			
Customer Need Pivot			
Channel Pivot			
Platform Pivot			
Business Architecture Pivot			
Value Capture Pivot			
Engine Of Growth Pivot			
Technology Pivot			

3 TRAINING OF PRACTICAL SKILLS

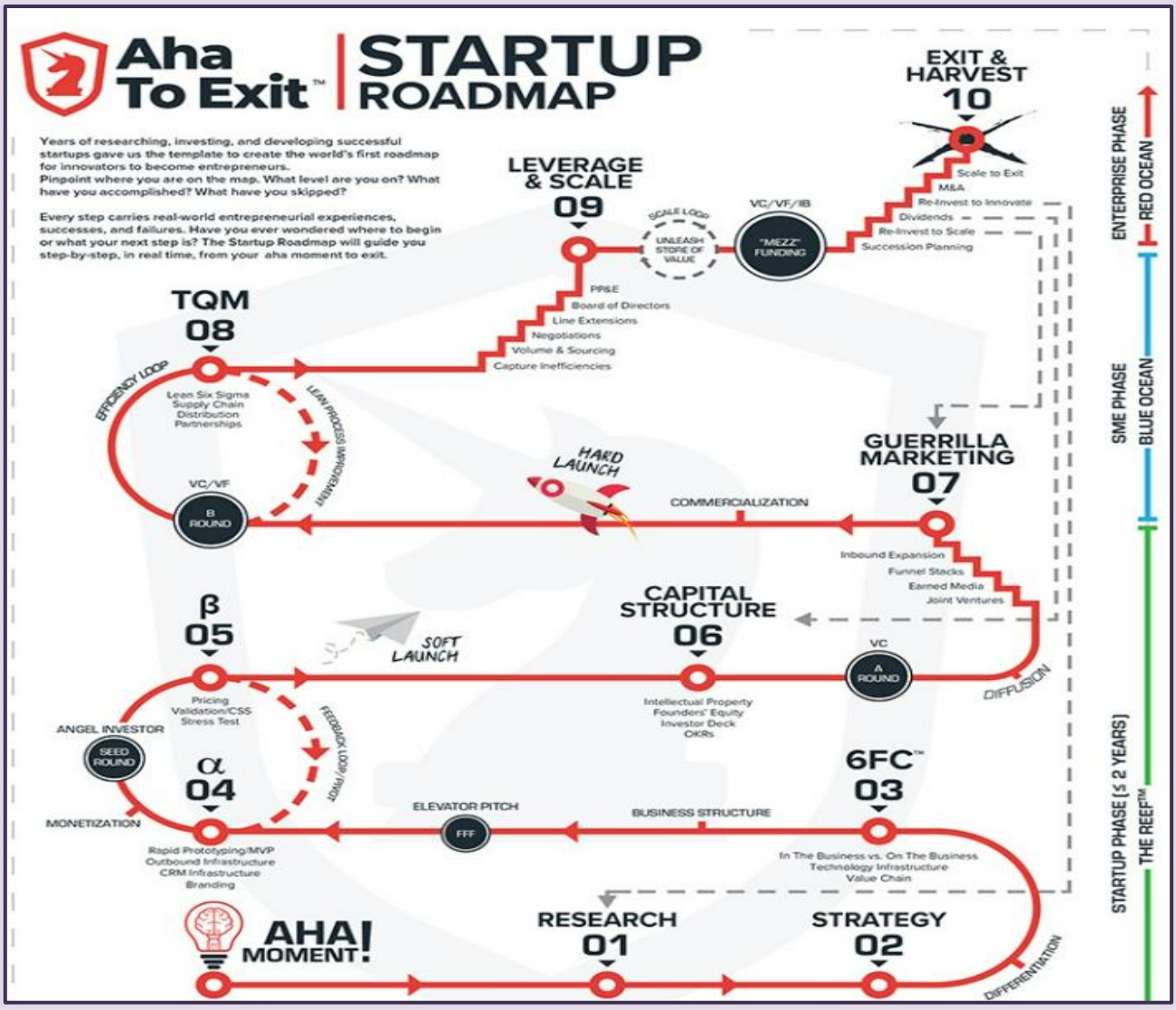
STARTUP ROADMAP [3;4]

TASK

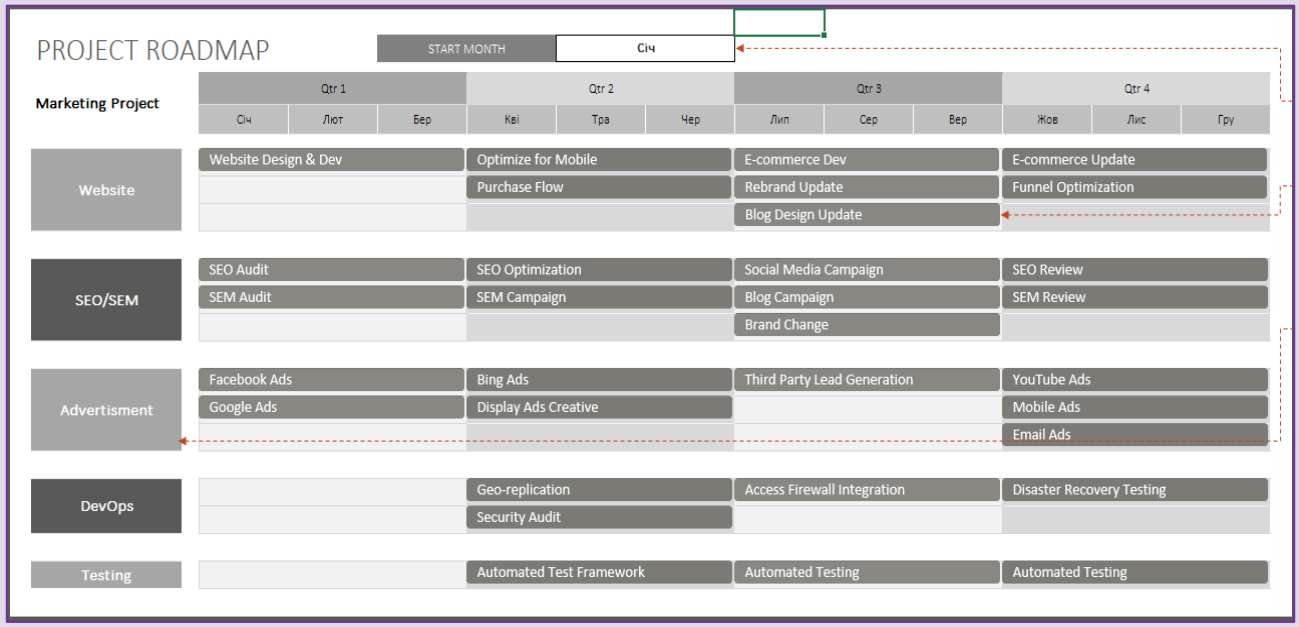
Using the diagram below (or in Excel format), draw up a roadmap according to the development strategy of the startup you have chosen or proposed:

https://www.freepik.com

Startup roadmap [3]



Project roadmap [4]



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