

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
KYIV NATIONAL ECONOMIC UNIVERSITY
named after VADYM HETMAN**

Institute of Business Education

Department of International Management

Field of knowledge **07 Management and Administration**

Specialty **073 Management**

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Educational and Professional Program 8M10i « Business Administration ((general) »

External Form of Education

MASTER THESIS

**Title Innovative Product Launching Strategy
(on the basis of online service "Planguin.io")**

By Ella Bondarenko

Academic Supervisor

Ph.D. Associate Professor Elena Prokhorova

**Master Thesis has been approved for defense at
Attestation Examination Commission (EC)**

Head of the Department of International
Management Ph.D, Associate Professor

_____ M. Burmaka

(Signature)

KYIV 2022

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
KYIV NATIONAL ECONOMIC UNIVERSITY
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MASTER DEGREE PROGRAM	«BUSINESS ADMINISTRATION (GENERAL) »
BRANCH OF KNOWLEDGE	07 Management and administration
SPECIALTY	073 «Management »
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AGREED

Head of the project group (guarantor) of the
educational-professional program

Y. Panchenko

(Signature)

20

APPROVED

Head of the Department

M. Burmaka

(Signature)

20__.

INDIVIDUAL TASK

higher education seeker Ella Bondarenko

Extramural studies

Master Thesis

Title: "Innovative Product Launching Strategy (on the basis of online service
"Planguin.io")

The title of the Master's thesis has been approved by the Rector's Order "16"12.2021 № 1903-ct
Master Thesis is based on

**Preliminary plan of Master Thesis and the terms of its submission to the Academic
Supervisor**

Chapter 1 Theoretical and methodical foundations of innovative product launching
strategy. *(deadline – up to 24.01.22)*

Chapter 2 New service characteristics and Ukrainian online services market
analysis. *(deadline – up to 21.02.22)*

Chapter 3 Online service Planguin.io launching strategy development and
implementation. *(deadline – up to 21.03.22)*

Deadline for submitting the final version of Master's Thesis to the Academic Supervisor
(Deadline - 16.05.22)

Object of research:	company's innovation activities.
Subject of research:	innovative product launching strategy of online service "Planguin.io".
The purpose of the Thesis:	development of an innovative strategy for launching the product on the Ukrainian market, based on generalization of theoretical foundations, detailed research, data collection, analysis and forecasting of possible project development options.

Specific tasks seeker has to accomplish to meet the objective:

In Chapter 1:

to summarize the sources about strategy definition, types of business strategy, innovative product characteristics, specific features of the online services and products market.

In Chapter 2:

to conduct market research and major trends: PEST and SWOT analysis, methods of assessing competitive forces in the industry according to M. Porter, matrix models, etc.; to develop maps of the strategic groups of competitors; to identify the competitive advantages of the enterprise to build a strong strategy.

In Chapter 3:

to develop a strategy for launching a new product on the market of the online service Planguin.io; to justify the feasibility of implementing the strategy and analyze alternatives; to create a strategy implementation plan and analyze possible risks during implementation process.

The task has been set
by the Academic Supervisor _____
(Signature)

Yeliena Prokhorova

“ ____ ” _____ 202____.

The task has been given to
seeker _____
(Signature)

Ella Bondarenko

“ ____ ” _____ 202____.

ABSTRACT

Master`s thesis for a master`s degree on “**Innovative Product Launching Strategy (on the basis of online service "Planguin.io")**” contains 81 pages, 17 tables, 14 figures. The list of references includes 30 items and 3 Appendixes.

The object of the research is company`s innovation activities. Innovation product is the online service Planguin, which is an application for two-way registration for an appointment. Its main task is to solve customer service problems in individual enterprises by automating the process of registration for the reception of clients, the structural work of the specialist and quality work with the client base.

The subject of the research is innovative product launching strategy of online service "Planguin.io".

The purpose of the Thesis is the development of an innovative strategy for launching the product on the Ukrainian market based on detailed research, data collection, analysis and forecasting of possible project development options.

The tasks of the work are:

1. Researching theoretical and methodical foundations of innovative product launching strategy.
2. Ukrainian online services market analysis and finding the new service characteristics, competitive advantages.
3. Developing and implementation the online service Planguin.io launching strategy.

The information base of the research is information about competitors in the market, open sources of information and automation services, analytics, data collection Google service.

According to the results of the study all indicators provided an opportunity to say that the new product launching strategy of Planguin app is attractive for investment.

The results obtained can be used for implementation the new product launching strategy of Planguin.io in the Ukrainian market.

Years of thesis completion – 2021-2022 Year of thesis defense – 2022

ACADEMIC SUPERVISOR REVIEW

on the master thesis

“Innovative Product Launching Strategy (on the basis of online service "Planguin.io")

by the student Ella Bondarenko

Educational and Professional Program 8M10i “Business Administration (general)”

The topic of the research is actual for the Ukrainian online service market. The profound market analysis indicates the presence of demand and a free niche for the new product.

The theoretical part of the research includes the summarization of sources about strategy definition, types of business strategy, innovative product characteristics, specific features of the online services and products market.

The market analysis is made with applying modern analytical tools of statistical information processing, financial analysis, PESTEL-analysis, SWOT-analysis. Competition analysis, such as comparison, five competitive forces by M. Porter analysis, maps of the strategic groups of competitors development are conducted according to the topic of the thesis.

The project of PLANGUIN online service implementation is justified on the methodology of project management and project analysis, risk analysis, is realistic and may be introduced at the market. Alternatives of project team formation were analyzed.

The manuscript contains references on used sources, citation ethics is kept.

Ella worked rhythmically, all recommendations on the improvement of the content of master thesis were taken into consideration.

Thesis completely corresponds the established requirements and is recommended to defense at the Attestation Examination Commission.

Academic supervisor
PhD, Associate Professor
of Management Department

Yeliena Prokhorova

31.05.2022

REVIEW FOR A QUALIFYING MASTER'S THESIS

Applicant Ella Bondarenko

on the topic: Innovative Product Launching Strategy (on the basis of online service "Planguin.io")

Thesis structure: The diploma project contains 3 sections with theoretical basis, marketing research, project description and feasibility study.

Relevance of the thesis: The Diploma Project of Ella Bondarenko has been developed as an up-to-date strategy for launching a new IT product for Ukrainian market. The strategy of launching Planguin.io has been developed on the basis of in-depth marketing study, deep understanding of its needs and competitors and taking into account all necessary trends in E-service market, as well as all requirements and methods that will help successfully start the project in Ukraine and scale it for other markets.

Comments and suggestions for the project: In the future it needs to be added with research on international markets and supplement the strategy for the development of a new E-service product.

The work is completed in full with full accordance with requirements for diploma projects and deserves a grade of "Excellent (A)", and its author Ella Bondarenko deserves a master's degree.

Reviewer Vladyslav Hrytsenko
CTO at Mighty Digital



“31”May 2022

Table of Contents

INTRODUCTION	5
CHAPTER 1. THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE INNOVATIVE PRODUCT LAUNCHING STRATEGY	8
1.1. Strategy for product launching: content and types	8
1.2. Innovative product characteristics	17
1.3. Features of the online services/products market	22
RESUME.....	25
CHAPTER 2. NEW SERVICE CHARACTERISTICS AND UKRAINIAN ONLINE SERVICES MARKET ANALYSIS.....	26
2.1. Online service Planguin.io short description	26
2.2. Competitors' analysis of the Ukrainian market	30
2.3. New online service's competitive advantages identification	35
RESUME.....	44
CHAPTER 3. ONLINE SERVICE PLANGUIN.IO LAUNCHING STRATEGY DEVELOPMENT AND IMPLEMENTATION	45
3.1. New product launching strategy development.....	45
3.2. Innovative product development cost analysis	49
3.3. New product launching management and social responsibility	56
CONCLUSION	66
SOURCES	70
Application A	73
Application B.....	74
Application C.....	77

INTRODUCTION

The e-services market is rapidly developing due to the great popularity of automation and improving the quality of life of people. Every year the number of e-services is constantly growing and new areas of their application in people's lives appear. Most of the services are focused on the needs of the individual, but it does not always show a high level of profitability, so the e-services market tries to satisfy the needs of business in the first place.

With the development of the e-services market, there is an urgent need to develop separate departments for customer care and technical support for users. There is a pronounced emphasis on the quality of customer service. That's why the Planguin app will be a popular and actual application for the users.

The task of the thesis is the creation and launch of a new innovative product on the market project, which is based on the study of market demand and the development of a unique concept of IT product.

The object of the study is the company's innovation activities. Innovation product is the online service Planguin, which is an application for two-way registration for an appointment. Its main task is to solve customer service problems in individual enterprises by automating the process of registration for the reception of clients, the structural work of the specialist and quality work with the client base.

The information base of the study was information about competitors in the market, open sources of information and automation services, analytics, and data collection Google service.

The main tasks for this exploration:

1. Researching theoretical and methodical foundations of innovative product launching strategy.
2. Ukrainian online services market analysis and finding the new service characteristics, and competitive advantages.
3. Developing and implementing the online service Planguin.io launching strategy.

The study uses traditional research methods of observation, comparison, measurement, experiment, analysis and synthesis, modelling, economic and mathematical, systems approach, formalization, logical, historical, etc.

Special research methods help to more accurately predict the effectiveness of the strategy, among them:

- statistical methods that allow determining the average reading, characterizing the whole set of subjects studied;
- the method of expert assessments used to obtain having variable empirical data during the special survey groups of experts to assess the research issue;
- factor analysis, the results of which are established multidimensional relationships of variables on several grounds.

During the implementation of the project, an analysis of the market of e-services with a similar interface in the Ukrainian market and highlighting the key advantages in the development and launch of the product Planguin App. The objects of research were: the quality of interface design, analysis of the number of users, coordinated work of the service and analysis of customer experience.

The second section presents all the key problems of the target audience and their solution through the service Planguin app. A key concept for application promotion and development has been developed.

According to the author, the creation of the Planguin service will be able to significantly improve the work of individual companies that need systematic work with customers and maintain a calendar of visits.

The main characteristics of the service:

- 1) a simple link in the form of a site to the calendar, which allows anyone to choose a convenient time and date to visit and make an appointment;
- 2) systematization of work: setting the schedule and list of services provided;
- 3) work with the customer base: a collection of customer data, rapid monitoring of information, and notifications for customers.

The final section of the thesis provides an assessment of the effectiveness and risks of the project, its sustainability and sensitivity, as well as scenarios for their development.

The evaluation of the effectiveness of the project development carries out according to the following indicators: forecast income for 2 alternatives; net present value; profitability index, payback period; internal rate of return. The analysis of all indicators provides an opportunity to say that the Planguin app project is attractive for investment.

The main hypothesis of the scientific work is the development of an innovative strategy for launching the product on the Ukrainian market, detailed research, data collection, analysis and forecasting of possible project development options.

The novelty of scientific work is to develop an innovative application based on the idea and detailed marketing research of the target audience.

Similar innovative projects show good economic and social efficiency in all areas of e-service. Given the need of the target audience for such a service in the Ukrainian market and an interesting marketing concept, the project can actively develop under the most pessimistic forecasts. The adaptability of the interface makes it possible to use the application in international markets, in case of development problems in the Ukrainian market.

CHAPTER 1.

THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE INNOVATIVE PRODUCT LAUNCHING STRATEGY

1.1. Strategy for product launching: content and types

The product launch strategy on the market is one of the most important stages of development, which defines the key foundation for market positioning, translates the main concept of the product, the main directions of development of marketing companies and the overall interaction of the product with the market. This stage is often referred to as product commercialization means that the product begins to be sold on the market and show the first commercial results.

This stage in the development of the product has a very important task - to sell the product to the market, and therefore characterizes the success of the project. An effective product launch strategy helps you generate awareness, build intrigue, and validate your product positioning.

A strategy is an integrated and coordinated set of commitments and actions designed to exploit core competencies and gain a competitive advantage [6, p.27].

Strategy generally involves setting goals and priorities, determining actions to achieve the goals, and mobilizing resources to execute the actions. Strategy can be intended or can emerge as a pattern of activity as the organization adapts to its environment or competes [13].

A strategy describes how the ends (goals) will be achieved by the means/resources [14].

Bruce Henderson wrote in 1981 that: "Strategy depends upon the ability to foresee future consequences of present initiatives." He wrote that the basic requirements for strategy development include, among other factors:

- 1) extensive knowledge about the environment, market and competitors;
- 2) ability to examine this knowledge as an interactive dynamic system;

3) the imagination and logic to choose between specific alternatives. Henderson wrote that strategy was valuable because of: "finite resources, uncertainty about an adversary's capability and intentions; the irreversible commitment of resources; necessity of coordinating action over time and distance; uncertainty about control of the initiative; and the nature of adversaries' mutual perceptions of each other." [16].

Henry Mintzberg described five definitions of strategy in 1987:

- strategy as plan – a directed course of action to achieve an intended set of goals; similar to the strategic planning concept;
- strategy as pattern – a consistent pattern of past behavior, with a strategy realized over time rather than planned or intended. Where the realized pattern was different from the intent, he referred to the strategy as emergent;
- strategy as position – locating brands, products, or companies within the market, based on the conceptual framework of consumers or other stakeholders; a strategy determined primarily by factors outside the firm;
- strategy as ploy – a specific maneuver intended to outwit a competitor; and
- strategy as perspective – executing strategy based on a "theory of the business" or natural extension of the mindset or ideological perspective of the organization [14].

There are many different approaches to defining "strategy", but it all comes down to this:

- 1) Strategy is a solution to the main problem through the use of its resources;
- 2) Strategy is a planned sequence of actions to achieve a goal;
- 3) Strategy is a competitive action to make a result, based on an assessment of one's current situation and the environment.

The strategy is the main characteristic of the company's activities, in the preparation of which it is important to take into account all its competitive advantages.

There are 2 key elements in the formation of a strategy: the internal characteristics of the company (goals and value; resources and capabilities; structure and systems) and external factors of influence (competitor; customer; suppliers). It's important to understand position of these factors before setting a strategy because firm need to know

all advantages and disadvantages for successful implementation of this strategy (see Fig.1.1).



Fig. 1.1 - The main framework of strategy

Source: Created by the author according to [2, p.13]

Successful strategy helps to develop business more efficiently and give more possibility in the work process. Effective implementation of the strategy should consist of detailed characteristics of resources and give an understanding of how it used, safe or increasing; analytics of competitive environment gives more possibility to avoid negative experience and set key successful factors; and the main characteristic of successful strategy is consistent, simple and long-term goals (see Fig.1.2.).

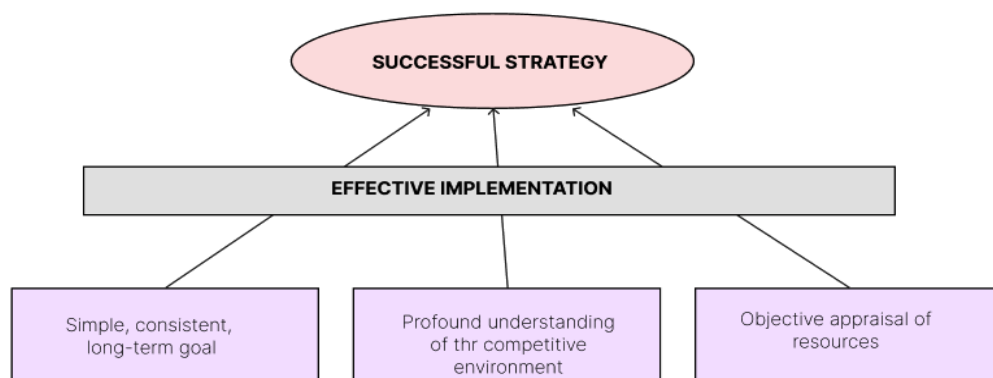


Fig. 1.2 - Common elements in successful strategies

Source: Created by the author according to [2, p.10]

A firm has a competitive advantage when it implements a strategy that creates superior value for customers and that competitors are unable to duplicate or find it too costly to try to imitate [6, p.27].

The product launch strategy is the go-to-market (GtM) strategy, which should be based on:

- competitive advantages of the product;
- market conditions and positioning;
- studying the ideal client and target audience.

The creation of a product launch strategy is based on preliminary research work: competitor analysis, analogue product analysis, target audience analysis, product research and development. The strategic management process is the full set of commitments, decisions, and actions required for a firm to achieve strategic competitiveness and earn above-average returns. The process involves analysis, strategy and performance [6, p.28].

During the launch of a product, it is important to understand what stage of development the product is in. There are several main stages of product development:

1) Introduction: The product is still in development; marketing goals are focused on raising awareness and motivating users to register or purchase.

2) Growth: A dramatic increase in users and sales, the addition of new product features, and the desire to capture more market share from competitors.

3) Maturity: the height of the introduction and profitability of the product. The main goal here is to maintain income and your position in the market.

4) Decline: New user registrations and revenue start to decline. Here the focus is on getting new sales from watchers and looking at new revenue streams[8].

Different levels of product novelty require different impacts that launch events should have on demand:

- For a product that is new to the world: The firm must develop a go-to-market strategy that focuses on stimulating primary demand for the product category. The launch plan should stimulate the adoption of the new product category and promote its distribution in the market.

- To improve a product or upgrade an existing product: the launch is expected to result in a customer migration (ie, existing customers should be encouraged to migrate to the new product), with competitor customers switching where possible. We can say that the goal here is to stimulate demand for substitution.

- For a new product or range expansion in an established market: the emphasis is on stimulating selective demand (pulling market share away from competition). The launch plan should encourage a trial purchase prior to implementation[6, p.415].

For each stage of the life of the product, it is necessary to align your development strategy with specific company goals. When it comes to the initial launch of a new product on the market, it is necessary to carry out additional preparatory work.

There are essential elements to include in your product launch strategy:

1. Product development: A successful product launch requires development to create a product customers want or need.

2. Customer and market research: Collecting customer feedback and analyzing your competition allows you to improve your product and determine your ideal client. Your research helps you deliver the perfect message once you launch your product.

3. Testing: Let a few customers try your product first, and collect their feedback to check your progress. Testing can reveal adjustments you need to make and help you continue developing the product [9].

A product launch strategy should address strategic questions such as who we are, what we do and why, and the tactical objectives of its implementation. Strategic launch decisions include both strategic platform decisions that set overall tones and directions, and strategic action decisions that define to whom we are going to sell and how. Tactical launch decisions are marketing mix decisions such as communication and promotion, distribution, and pricing that are typically made after the strategic launch decisions and define how the strategic decisions will be implemented [6, p.364].

There are quite a lot of risks when launching a new product on the market, so it is important to properly plan your actions in strategic and tactical actions at the first stage of work. When making decisions to create a strategy, it is necessary to conduct preliminary research of the market, target audience and competitors in order to make more informed decisions based on this data.

The product launch strategy most often consists of a business plan in which marketing occupies a large part since this is the initial launch of the product on the market and the success of the launch will depend on how well the strategy and tactical actions

are thought out. It is important to correctly calculate the development costs of the first months of a product launch in order to effectively manage the further development of the product.

The strategy should contain specific goals and indicative KPIs in order to understand how effective the actions are in implementing the strategy. For each component of the business plan for launching a new product, it is necessary to select key performance measures. These indicators can be divided into several groups:

- performance indicators of work with the consumer: Customer acceptance (use), Customer satisfaction, Revenue (dollar sales), Market share, Unit volume;
- performance indicators of the product: Product cost, Time to launch, Product performance, Quality guidelines;
- financial indicators: Cash-to-cash (time to break even), Margins, Profitability (IRR, ROI);
- other: nonfinancial measures peculiar to the new product being launched.
Example: competitive effect, image change, morale change [6, p.397].

One of the most important metrics listed above, the cash-to-cash ratio, sometimes referred to as the time to breakeven ratio, is simply the time between the initial cash investment and when the finished product is paid for and is becoming increasingly popular. When using a cash-to-cash metric, a firm must also keep in mind that they must be efficient and effective in bringing a product to market, not just quickly.

An important element in creating a product launch strategy is to analyze the target audience and segment it into groups. It is necessary to correctly understand the demand of the market and respond to it through communications. Analyzing the previous experience of competitors, analyzing a customer request on the Internet, customer reviews of similar products, thematic communities in social media, all will help in creating an effective product launch strategy. During the segmentation of the target audience give deeply exploring of the portrait of your target client: needs, desires, gender characteristics, social status and other attributes.

The important thing in the new product launching strategy is creation of a marketing mix strategy for entering the market based on a portrait of a potential client,

analysis of the market and competitors, which will answer the main questions: the price of the product on the market, key advantages and disadvantages of the product, where and how to promote the product.

When forming the right strategy for entering the market with a new product, the following types of strategic positions in relation to competitors are often used: cost leadership, differentiation, goal-oriented cost leadership, goal-oriented differentiation, complex cost leadership/differentiation [6, p.117].

Each strategy can help a firm establish and exploit a specific competitive advantage in a specific competitive area. How firms integrate the activities they perform within each individual business-level strategy shows how they differ from one another.

When choosing a competitive strategy, two types of potential trade in the market are evaluated: lower cost than competitors, or the ability to differentiate and charge a higher price that exceeds the additional costs of doing so.

The cost leadership strategy is an integrated set of actions taken to produce goods or services with features that are acceptable to customers at the lowest cost, relative to that of competitors. Firms using the cost leadership strategy commonly sell standardized goods or services, but with competitive levels of differentiation, to the industry's most typical customers [3].

The differentiation strategy is an integrated set of actions taken to produce goods or services (at an acceptable cost) that customers perceive as being different in ways that are important to them. While cost leaders serve a typical customer in an industry, differentiators target customers for whom value is created by the manner in which the firm's products differ from those produced and marketed by competitors [3].

The focus strategy is an integrated set of actions taken to produce goods or services that serve the needs of a particular competitive segment. Thus, firms use a focus strategy when they utilize their core competencies to serve the needs of a particular industry segment or niche to the exclusion of others.

The rest of the strategies simply combine the features of these strategies to highlight more competitive advantages to create an effective go-to-market strategy. The

choice of strategy helps not only to highlight the competitive advantages of the campaign, but also to correctly create the value of the product and position it correctly in the market.

A product position and unique value proposition is one of the key elements of a go-to-market strategy. A product positioning statement is created by completing this sentence: buyers in the target market should buy our product and not others offered and used because and explain the key benefits. The product, brand, price, promotion and distribution must comply with the product positioning statement [6, p.429,]. When launching a new product on the market, it is very important to create a clear positioning, since users do not know anything about it, and it is very important to make the correct first perception of the product by the market. The UVP (unique value proposition) is a statement that clearly tells potential customers how they will benefit from a business offer, how products or services will address their needs and solve their problems, and what makes a business offer different from the competition.

The value proposition should be a clear statement demonstrating:

- measurable value: explain how the product provides specific benefits or results.
- points of differentiation: tell the ideal customer why a product is better than the competition and give them a reason to choose it over others.
- relevance: explain how a product solves real and unavoidable problems your customers face.

Broadcasting the USP occurs due to the correct branding and packaging of the product. During the launch of a new product on the market, it is important to set the right and unified branding message, creating a unified image in the eyes of users.

Having to document positioning before launch helps gives companies the clarity and confidence in what they are selling to convince others to buy, download or sign up. Developing a sales manual will help ensure consistency in product demonstrations, product benefits, and differentiation from competitors.

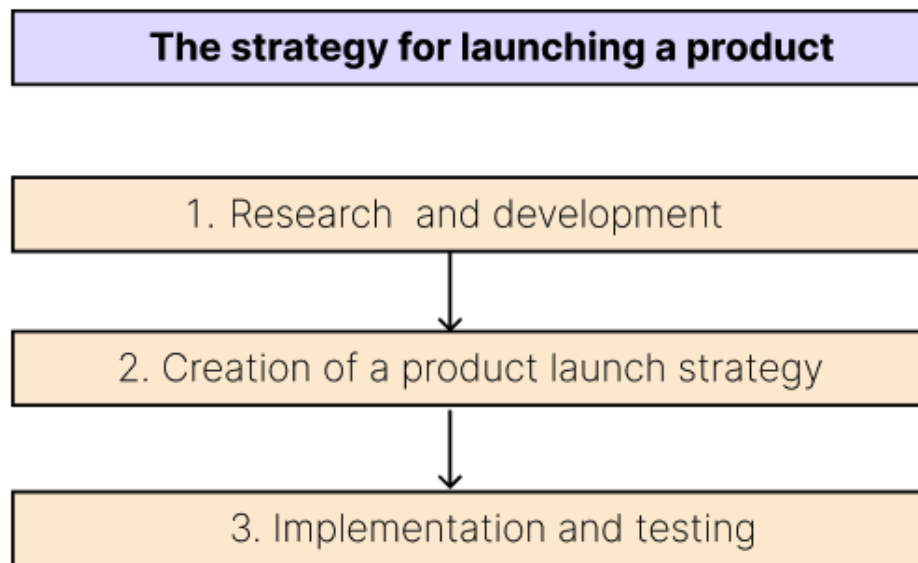


Fig. 1.3 - Stages of creating a strategy for launching a product on the market

Source: Created by the author according to [6]

Creating a strategy for launching a product on the market consists of several stages (see Fig. 1.3):

1. Research: the study of the market and the environment, the analysis of the activity of competitors and the product line, the analysis of the target audience and market segment, the search for general market trends.

2. Creation of a product launch strategy: analysis of the key advantages of the product, product positioning and branding, creation of a unified plan for promotion in the market, setting the main goals and objectives of the strategy, budgeting, KPIs.

3. Implementation and testing: the release of the product into alpha testing, when the product is tested by a small audience and provides an opportunity to adjust the main promotion strategy.

The strategy for launching a product in the market should contain an analysis of the key characteristics of the product. A successful strategy development need to conduct an in-depth study of internal and external factors affecting the operation of the product.

1.2. Innovative product characteristics

Many successful companies are chasing innovative approaches to work and creating an innovative product, as this is an important competitive advantage in the market and a source of additional income. Through innovation, many companies have been able to increase production output, increase the number of sales, improve the quality of customer service, increase the profitability of the enterprise, and many other useful things in the life of the company. Therefore, many leading companies invest heavily in innovation departments and constantly invent new products in the market.

Invention is the creation of new products and processes through the development of new knowledge or from new combinations of existing knowledge [6, p.298].

Innovation is the initial commercialization of invention by producing and marketing a new good or service or by using a new method of production. Once introduced, innovation diffuses: on the demand side, through customers purchasing the good or service; on the supply side, through imitation by competitors. An innovation may be the result of a single invention (most product innovations in chemicals and pharmaceuticals involve discoveries of new chemical compounds) or it may combine many inventions.

Invention is the conception of the idea, whereas innovation is the subsequent translation of the invention into the economy. The following simple equation helps to show the relationship between the two terms:

$$\text{Innovation} = \text{theoretical conception} + \text{technical invention} + \text{commercial exploitation} \quad [1, \text{p.15}]. \quad (1.1)$$

Innovation is the management of all activities associated with the process of generating ideas, developing technologies, manufacturing and marketing a new (or improved) product, manufacturing process or equipment.

Innovative products come in several types (see Table 1.1) and are divided according to the areas of application of these products. There are process innovations,

management innovations, organizational structure innovations, process innovations, and product innovations.

Product innovation is the actual form of a new product that has been invented and has not been used before.

The creation of an innovative product on the market takes place in several directions of development. New innovative products emerge:

- based on the scientific and technical base: the creation of new knowledge, inventions created through research by scientific organizations, the creation of completely new innovations on a theoretical basis and through experiments in technical bases;

- based on technological development for a specific request: the development of technologies, which is dominated by organizations that create new innovative products on the market;

- based on the real needs of the market: consumers express their needs and desires through the consumption of products. An innovative product must solve a specific market problem;

- improving current products in an adjacent niche by transferring prototype technologies to a new product and combining uneven ideas: creating a new product based on the experience of old products to improve [10].

The following sub-groups based on the results of innovation can be identified in this area:

- social effects, manifested, in particular, as an exception, heavy, unhealthy jobs, improve safety and health conditions, exclusion of occupational diseases and accidents at work;

- economic results, the consequence of which is the growth of labor productivity, increase profits, increase in output;

- technical results in the form of improving the technical parameters of machines, equipment, products, or improving the organization of work and the flow of the process [10].

Table 1.1 – Typology of innovation

Type of innovation	Example
Product innovation	The development of a new or improved product
Process innovation	The development of a new manufacturing process such as Pilkington's float glass process
Organisational innovation	A new venture division; a new internal communication system; introduction of a new accounting procedure
Management innovation	TQM (total quality management) systems; BPR (business process re-engineering); introduction of SAPR3*
Production innovation	Quality circles; just-in-time (JIT) manufacturing system; new production planning software, e.g. MRP II; new inspection system
Commercial/marketing innovation	New financing arrangements; new sales approach, e.g. direct marketing
Service innovation	Internet-based financial services

Source: Built by the author according to [1, p.20]

There are several main components of creating a new product: research and development, production, marketing.

Research and development is the stage of creating the main technology for the production and operation of the product, which includes prototyping and creating a template solution.

Production is the creation of a real product, its manufacture and presentation of the finished product.

Marketing is the analysis of a product, its main advantages, analysis of the needs of the target audience, competitors and market demands, combining this research with the main product to improve the effectiveness of launching an innovative product.

Based on the basic elements of a product development, there are two main concepts for launching an innovative product: technology push (technical feature-based) and market pull (marketing analysis based).

The approach based on the technical functions of the product (technology push) evolves from product development to marketing activities (see Figure 1.4). The company first creates a product, engages in complex development, and then explore the market and consumers who would be interested in the product and combine this in practice.

The “market pull” approach begins with detailed research of the market and the search for invisible problems of the target audience. Then, based on this problem, make a product solution for the current market needs.

There are other models for creating innovations that combine and complement the main elements of an innovative product: the simultaneous connection model (connects all elements at the same time) and architectural innovation (a cyclic model that complements the elements with new ideas).

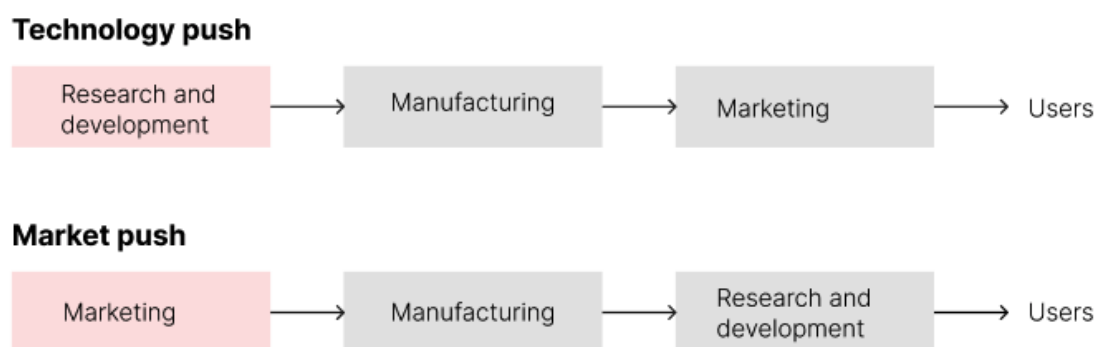


Fig. 1.4 - Linear models of innovation

Source: Created by the author according to [1, p.23]

New products can be classified in terms of how new they really are to the world or to the firm. One general set of categories looks like this:

1. New to the world products or really new products. These products are inventions that create a whole new market.
2. New products for the company or new product lines. Products that move the company into a new category for it. Products are not new to the world, but new to the firm.
3. Additions to existing product lines. These are line extensions designed to flesh out the line of products offered by the firm in current markets.

4. Improvements and improvements to existing products. Current products have gotten better.

5. Repositioning. Products that are repurposed for a new use or application.

6. Cost reduction. New products that simply replace existing products in the line, providing the customer with similar features but at a lower price [6, p.14].

The basic process of creating a new innovative product consists of several stages (see Figure 1.2). It all starts with the search and identification of new opportunities in the market. Next, the concept of a new product, its main characteristics and prototyping of the product are created. The next step is to evaluate the prototype and the project as a whole, think over the strategy and evaluate all the necessary resources to launch a new innovation. After that, the process of developing a product and launching it on the market starts.

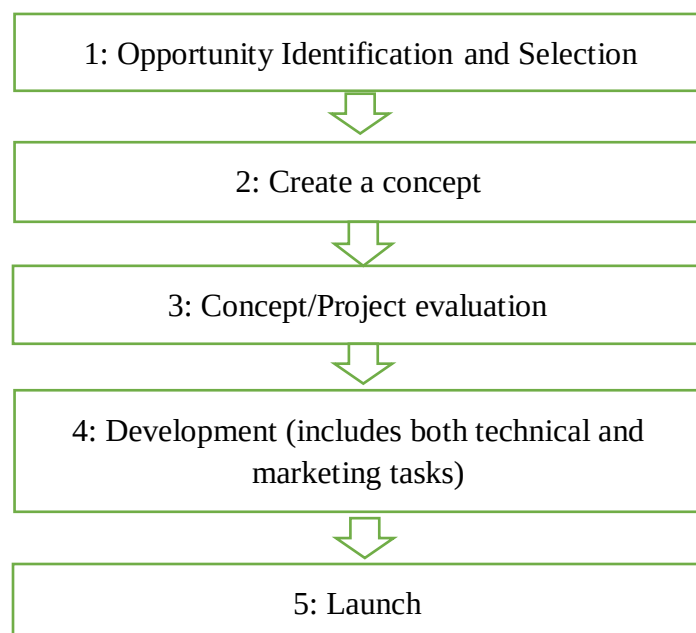


Figure 1.5 - The basic new innovation product process

Source: Created by the author according to [7]

There are several key factors influencing the speed of the product adoption process: the characteristics of the innovative product and the extent to which early adopters encourage others to follow it.

According to the classical distribution theory of Everett Rogers, there are five factors that determine how soon a new product will spread to the market [6, p 423].

Product feature:

1. Relative advantage of the new product. To what extent is the innovation superior to the product or other problem-solving methods with which it was developed?

2. Compatibility. Is this consistent with current product usage and end-user activity? Continuous innovation requires little change or learning from customers as compatibility with previous experiences and values is high; the more discontinuous innovation is, the more training is required.

3. Complexity. Will there be frustration or confusion in understanding the main idea of the innovation?

4. Divisibility (also called testability). How easy is it to purchase and use trial portions of the product?

5. Sociability (also called observability). How easy is it for the user to see the benefits of using the product?

Innovation can be measured against these five factors, using primarily personal judgment plus market testing from earlier development stages.

1.3. Features of the online services/products market

In connection with the popularization of the use of the Internet and personal devices, the direction of mobile and desktop applications is actively developing. Convenient use, high work efficiency, reduced labor intensity of the process all this stimulates the development of online services. More and more daily processes are going digital, ordering food, calling a taxi, making an appointment with a doctor, all this can be done using a mobile phone and Internet access.

Every minute a new application for working on the Internet appears on earth - it can be a completely new innovative development or a slightly improved copy of competitors. All this creates a separate market with its own characteristics and rules. The Internet services market is often referred to as the e-services market.

The e-services market is defined by the sale of online services and digital goods over the internet. This definition includes event tickets (sporting events, music events, and movie tickets), dating services (matchmaking, online dating, casual dating), and

online food delivery (restaurant-to-consumer and platform-to-consumer delivery). Reservations or ticket purchases can be completed on a desktop PC or using mobile devices (smartphones or tablets) [11].

The definition of e-services does not include: media content purchased online (digital media) or the online sale of physical goods (e-commerce). In addition, business-to-business segments, as well as revenue from online gambling, downloads of software and services, or commissions from price comparison sites and products, are not included [11].

E-services (electronic services) are services which make use of information and communication technologies (ICTs). The three main components of e-services are:

- service provider;
- service receiver; and
- the channels of service delivery (i.e., technology) [12].

For example, with respect to public e-service, public agencies are the service provider and citizens as well as businesses are the service receiver. For public e-service the internet is the main channel of e-service delivery while other classic channels (e.g. telephone, call center, public kiosk, mobile phone, television) are also considered [12].

E-service (or eservice) is a highly generic term, usually referring to "The provision of services via the Internet (the prefix 'e' standing for 'electronic', as it does in many other usages), thus e-Service may also include e-Commerce, although it may also include non-commercial services (online), which is usually provided by the government." [12].

"E-Service constitutes the online services available on the Internet, whereby a valid transaction of buying and selling (procurement) is possible, as opposed to the traditional websites, whereby only descriptive information are available, and no online transaction is made possible." [12].

Behind the data of the Statistica statistical reporting service, the electronic services market will develop rapidly, a few specific figures:

- E-services market revenue is projected to reach \$106 million in 2022 in the world.
- The annual revenue growth rate (CAGR 2022-2026) is expected to be 8.21%, resulting in a projected market size of USD 145 million by 2026.

- The event ticketing segment is expected to show revenue growth of 11.5% in 2023.
- The largest segment of the market is event tickets with a projected market size of US\$46 million in 2022.
- For a global comparison, most of the revenue will be generated in China (\$169,637 million in 2022).
- The median revenue per user (ARPU) for event tickets in 2022 is projected to be \$23.60.
- The Dating Services segment is expected to have 6.6 million users by 2026.
- User penetration in the Dating Services segment in 2022 will be 11.7% [11].

The e-services market is rapidly developing due to the great popularity of automation and improving the quality of life of people. Every year the number of e-services is constantly growing and new areas of their application in people's lives appear. Most of the services are focused on the needs of the individual, but it does not always show a high level of profitability, so the e-services market tries to satisfy the needs of business in the first place.

With the development of the e-services market, there is an urgent need to develop separate departments for customer care and technical support for users. There is a pronounced emphasis on the quality of customer service. Also, an important element in the development of e-services in the market is the legal basis for the operation of such services, the regulation of disputes with customers, the introduction of security guarantees, etc.

An important point in the life of e-service is the protection and storage of user data. Data security solutions are gaining more and more popularity in the Internet services market. The creation of electronic services is just beginning to develop and will continue to develop.

RESUME

The e-services market is rapidly developing due to the great popularity of automation and improving the quality of life of people. Every year the number of e-services is constantly growing and new areas of their application in people's lives appear. E-services products are always based on innovation.

The invention is the conception of the idea, whereas innovation is the subsequent translation of the invention into the economy.

Innovation is the management of all activities associated with the process of generating ideas, developing technologies, manufacturing and marketing a new (or improved) product, manufacturing process or equipment.

There are several main components of creating a new product: research and development, production, and marketing. The new product launch strategy on the market is one of the most important stages of development, which defines the key foundation for market positioning, translates the main concept of the product, the main directions of development of marketing companies and the overall interaction of the product with the market. This stage is often referred to as product commercialization means that the product begins to be sold on the market and shows the first commercial results.

There are two key elements in the formation of a strategy: the internal characteristics of the company (goals and value; resources and capabilities; structure and systems) and external factors of influence (competitor; customer; suppliers).

Effective implementation of the new innovative product strategy should consist of detailed characteristics of resources and give an understanding of how it used, safe or increasing; analytics of competitive environment gives more possibility to avoid negative experience and set key successful factors; and the main characteristic of successful strategy is consistent, simple and long-term goals.

CHAPTER 2.

NEW SERVICE CHARACTERISTICS AND UKRAINIAN ONLINE SERVICES MARKET ANALYSIS

2.1. Online service Planguin.io short description

Planguin.io is an online application for two-way appointment of clients to a specialist or master (service provider). The service is a convenient calendar with a wizard's work schedule, which is displayed via an internal formulated link. The specialist (service provider) can send this link to the client so that he can choose the date and time for making an appointment. Such a link makes it possible to show the active work schedule of a specialist and free time for appointments. The link to this calendar can be used in personal social media and on the site in the form of a widget. Both the provider and the consumer of the service can make an appointment, as well as mark the appointment.

This service can be used by both individuals - manicurists, hairdressers, cosmetologists, dentists, doctors, teachers and other people who need to keep a customer reservation, as well as legal entities - service stations, laboratories, veterinary clinics, salons of certain equipment and others.

The main task of the service is to simplify the work of a specialist in working with clients, systematize the work schedule of the provider and improve client service. The basic principle of operation is a two-way online customer appointment making.

The service was built on the principle of "two touches" - the entire architecture of the service was thought out so that the user in 2 clicks could make an appointment and receive a notification about it.

The idea of creating a service arose because of the market need for such a product. Many masters (service providers) have constant problems with client's appointments: the schedule is constantly lost, clients call during the current appointment, they cannot sign up for the service, the client is late and does not confirm the appointment, information (phone numbers) about the client is lost, there is no permanent contact list and customer

feedback. Market Inquiry is a simple and beautiful online customer appointment reservation, without unnecessary downloads of applications, website development, complex warehouse management programs and other add-ons. The market just needs a calendar of active customer appointments that can be shared via links. Many competitors offer similar functionality but enrich it with various additional features, which confuse users.

The structure of the Planguin.io service:

1. Calendar journal of a client's appointment (see Figure 2.1). The main functionality of the service is an online calendar with a date and an active work schedule. Before making an appointment, you must select the type of service, then the system selects free time for this service and the user can choose the most suitable time and date from several options.

2. Block of general settings for the provider. Regulation of the work schedule of the provider. There is a separate block for scheduling work and entering additional data for the client (links to the provider's social networks, contact details).

3. Convenient list of services and costs. A separate block that is filled in by the provider where all types of services are presented, their description, cost and time required to provide the service.

4. The service collects a client base (name, phone number) for the provider. A block with a list of clients where you can find the right client in 2 clicks and contact him. Mass interaction with clients is also possible: congratulations on holidays, notification of promotional programs, etc.

5. Notice to customers. The service automatically confirms the client's appointment and reminds a few hours before the scheduled meeting.

6. Personal online web page with online customer appointment reservation. The calendar is broadcast through an internally generated link to a web resource. This is a convenient link for appointment scheduling: you can send it to instant messengers, or leave it on social networks.

The implementation of the Planguin.io app solves many key tasks for business:

1) Easy to work for the master and for the client. The target audience of this service is not versed in information technology and software, so you need to create a simple and understandable product for it. Due to the two-click development technology, the app is simple and understandable for users. Just a few buttons and you made an appointment with the master, without calls and messages.

2) Systematization of the work schedule of the master and work with clients. The Planguin app should help to systematize the provider's work schedule and prevent schedule overlays.

3) Reducing the time spent on communication with customers. The client can make an appointment on his own. The service should help the provider improve the level of customer service and reduce the provider's labor costs for talking with the client.

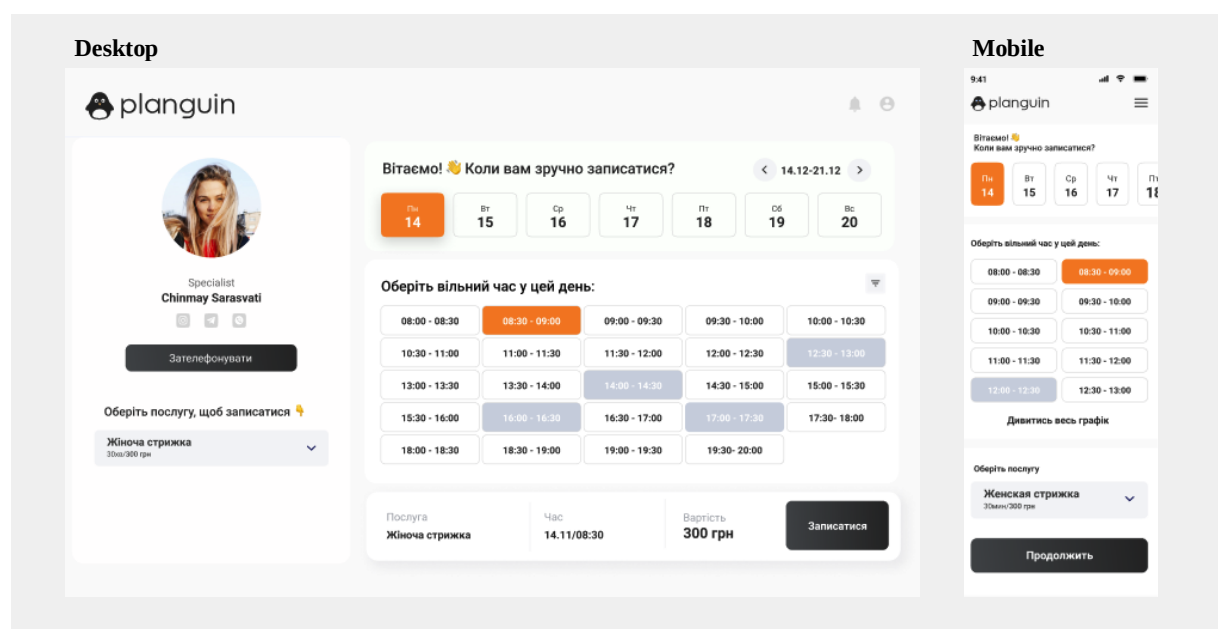


Fig. 2.1 - Planguin.io calendar journal of a client's appointment

Source: Created by the author on her own research

This feature helps prevent burnout at the provider and makes it possible to do your job better without being distracted by customer calls.

4) Collected client base in one place and the ability to quickly contact the client, find his phone number. The service saves all contacts in the cloud and you can contact your client at any time.

5) Increasing service and customer loyalty without significant costs. One of the key trends in the IT world is the personalization of communication without the need for

a face-to-face phone call. Users are more likely to text than call. The Planguin service helps to make an appointment with the master without his direct participation and without the need to make a call. This feature greatly simplifies the work and improves the level of customer service.

For a more convenient operation of the service, several integrations with partners and optimal application add-ons are planned.

It is planned to additionally develop a service widget, a program code for websites so that the provider can add a block with an active service calendar to his website. Such an add-on will help increase the number of active users of the service.

The service also plans to cooperate with platforms for building ready-made websites - integration with website builders (Tilda, Wixx). One of the key tasks of the marketing team is to build a partner IP integration network. For example, additional integration with accounting services, online payment, etc. is possible.

The service plans to integrate with popular messengers (WhatsApp, Viber, Facebook, Telegram) by creating convenient chatbots for working with clients and collecting feedback from current clients after acceptance. The technology of the service collects a customer base by phone number and registers them in the system, then helps to quickly contact them and respond to requests.

Thus, the Planguin application helps to systematize the work for persons selling services, helps to improve the quality of work and increase the loyalty of current customers.

The Planguin app is under development. Application development consists of several stages: concept discussion, interface design creation, brand design, application development (front-end, back-end), product testing and market launch. At this stage, the brand concept and corporate identity, interface design and backend development process have already been created.

A successful concept of launching a new product requires a detailed analysis of the market needs and the experience of competitors in order to understand the desire of the target audience and avoid the mistakes of competitors in the service. The Planguin app

began its creation with an idea and a real need of one of the founders, after studying consumer experience, a lot of amendments appeared in the work of the app.

2.2. Competitors' analysis of the Ukrainian market

The Planguin application is created for the Ukrainian market. There are sufficient number of similar services in this market, but all of them are complex or have an ugly design. The total number of similar services that could indirectly replace the product is up to 25, of which only 5 are the most active and relevant to our niche. Among them Yclients, Wlaunch, Simplybook.me, EasyWeek, Dikidi.

Yclients is a russian service that is very popular and has been on the market for 5 years.

The main characteristics of the product:

- a full-fledged CRM system for business in the service sector: online reservation, customer journal, warehouse accounting, financial transactions;
- create personal mobile applications for business iOS, Android;
- deep integration with social networks (the Book button - the calendar is displayed);
- have the outside link for appointment;
- integrations with partners to improve serviceability: create a bot, free landing link, integration with Tilda etc.

The main advantage is full automation of the work of a beauty salon or beauty services - oriented for commercial firm.

The main disadvantages of the service:

- complex interface, inconvenient to register for the client
- interruptions in work and errors in calculations;
- a lot of negative reviews and complaints about the service.
- rolled out a raw version, did not update anything since its creation;

Payment: There is no free version. Test period 7 days. The minimum tariff for a month is \$11. There are flexible tariff plans (by months, employees, number of branches).

The number of users is 260 thousand people.

Main regions: russia - 68%, Ukraine - 15%, Belarus, Georgia, Kazakhstan.

Wlauch is ukrainian service, which was recently created. The interface has several language versions.

The main functions of the service:

- online registration of clients;
- payment for services online (integration LiqPay)
- group lessons;
- warehouse control;
- SMS notification;
- customer loyalty program;
- payroll accounting;
- create a mobile application for business.

Disadvantages:

- the service is complicated and inconvenient to work with;
- not a well-thought-out calendar of appointment, it is difficult to make an appointment;
- a fairly raw product.

Payment: Minimum payment is \$ 3.5/ month. There is a flexible tariff: the number of employees; mortgages; license duration.

The number of users is 8,6 thousand people.

Main regions: Ukraine - 94%, the Netherlands - 3%, russia - 2%, Spain - 1%.

Simplybook.me is an application made in the USA, not very popular in Ukraine. In this app, a whole landing site about business is created with an appointment widget. There is a functionality of payment for services, notifications, API integration. There are programs for large businesses and convenient integration of the service with FB / Instagram, a separate shutdown button.

Payment: There is a free plan for up to 50 bookings/month, 7 euros up to 100 bookings.

The number of users is above 3 millions people with USA audience.

Main regions: USA - 39%, Canada - 38%, Australia, Brazil. In Ukraine, irrelevant.

EasyWeek is a German app, which is actively developing in the Ukrainian market.
The main functions of the service:

- online appointment-calendar for clients;
- accounting of clients;
- accounting of wages;
- accounting of goods;
- registration in the social network via the link;
- alerts;
- create mobile applications for iOS, Android.

Payment: Free trial 14 days. The minimum tariff is 6 \$ / month.

Main regions: Ukraine - 84%, Germany - 10%, USA - 7%. Focused on development in European countries.



Fig. 2.2 - Competitive map for Ukrainian online appointment booking service market

Source: Created by the author on her own research

Dikidi is russian online appointment booking service with an outdated interface design. Main characteristics:

- calendar online appointment;
- direct work with clients;
- payroll accounting;
- finance management;
- customer analytics;
- make individual mobile applications.

Payment: There is a free version of the online calendar. Additional accounting add-ons are paid from \$ 2.5 / month. Main regions: russia – 98%.

The figure shows that the German EasyWeek app has the highest quality of product than American app Simplebook.me has the highest quality product, but again it has its limitations. The poor quality of the user interface for the Yclients and Wlaunch products, these apps are also complicated by additional functionality for work.

The Planguin plans to remain in the segment of the lowest price, but at the same time provide good quality of service. This is niche segment is not yet occupied by competitors. The key in the service is limited functions, but the most relevant to the audience and high-quality performance.

It is necessary to compare comparisons of the influence of competitors on consumer choice and select the main problems that the consumer faces during product seaching.

The main factors of consumer evaluation:

- the presence of a beautiful calendar for clients appointment;
- a simple and clear interface;
- creating a separate calendar link;
- interaction with customers: notifications, holiday greetings, etc.;
- integration with external services: social networks, website, etc.;
- convenience and flexibility of payments; positive client experience (see Table 2.1.).

The undisputed leaders in the Ukrainian market are two services: EasyWeek and Wlaunch. They meet the specified criteria of the target audience as much as possible, so it is necessary to pay attention in detail to their experience of working with the audience and improve the concept of promoting the Planguin app.

Table 2.1 - Comparison of the competitors based on consumer choice factor*

Customer factors	Yclient	EasyWeek	Wlaunch	Simplebook	Dikidi
1. The presence of a beautiful calendar for clients appointment.	7	7	6	9	1
2. Simple and clear interface.	4	4	6	6	2
3. Create a separate calendar link.	7	7	7	8	0
4. Interaction with customers: notification, holiday greetings, etc.	8	8	7	6	5
5. Integration with external services: social networks, website, etc.	8	8	5	6	5
6. Convenience and flexibility of payments.	4	7	7	7	6
7. Positive client experience.	5	6	6	7	4
TOTAL	43	47	44	49	23

*Assessment: 0 – the worst, 10 – the best

Source: Created by the author on her own research

The Simplebook competitor is quite strong in terms of comparing the Planguin concept but it is practically not used in the Ukrainian market, and it has its own implementation difficulties that repel the user.

Dikidi app has an outdated design and the only advantage of the service is integration with social networks.

Yclient also has a large number of active users but have trouble with user experience to use. Besides, the russian service Yclient is not popular in Ukraine for political reasons.

A detailed analysis of competitors helps to better understand the internal and external factors influencing the development of the application and the creation of the ultimately successful strategy for launching a new product on the Ukrainian market.

2.3. New online service's competitive advantages identification

The key advantages of the application can be identified only after a data analysis of the external environment, market activity and demand, analysis the needs of suppliers and customers and, based on these data, it is possible to show the main positive qualities of the product.

A detailed study of the product and a forecast of its implementation on the market, adaptation to customer requests, improving service avoiding the negative experience of competitors - all this will help create a successful strategy for promoting the product on the market, as well as avoid additional costs during the implementation of the strategy.

For the results of the market analysis must to provide report of the political, social and economic situation in the country. In this case, the PESTEL analysis is the best decision to use, which has identified all these factors and analyzes their impact on the business (see Table 2.2.).

For the Ukrainian market, the high complexity is due to political and economic factors, since the situation in this country is rather unstable. Power often changes, a high level of corruption, economic instability, constant inflation, recovery after covid restrictions, martial law - all this carries significant risks in business development, but at the same time provides additional opportunities.

Among the positive factors for the development of the service are social and technological, as they make the main impetus in the development of the service. A large number of consumers are developing and would like to improve their business. The general trend in society "digitalization in everything" helps to set the fashion in process automation and the use of software to replace routine.

Another important point is the development of IT entrepreneurship in Ukraine. The government is constantly introducing new programs to support and develop the IT sector: a special tax rate, special business hubs, etc. The development of IT business in Ukraine is becoming more and more attractive as there are a large number of professional talented programmers, which is very important for progressive work.

For the development of the Planguin App in Ukraine, there are all the necessary conditions: an active demand on the market from customers, high-quality programmers and government incentives for the development of IT business.

Table 2.2 – PESTEL analysis of Ukrainian market

Factors	Characteristics	Impact for development
Political	- political instability of Ukraine, military actions; - a high level of instability of political power and its corruption; - constant inflation; - taxation keeps going up; - tax benefits for IT business development: simplified business system; - in the future, assistance to the IT business sector with a special mode of operation.	Some positive points, but a lot of negative
Economic	- the price of the work of programmers is constantly increasing due to the link to the dollar exchange rate; - the minimum wage is growing rapidly; - quarantine restrictions made the entire business work online without direct contact with customers; - decrease in the purchasing power of the population, further forcing businesses to look for new approaches to sales; - increase in utility rates.	Negative impact
Social-culture	- the need for progressive programs to improve performance; - a great desire to work for yourself and the rapid development of small businesses with an emphasis on the sale of services;	Positive impact
Technological	- culture of digitalization of society, active automation of the work process; - many professional programmers with high quality of work; - rapid development of technologies and innovations in Ukraine; - great demand for automation of work with clients.	Positive impact
Environmental Factors	- Regular scrutiny by environmental agencies; - Customer activism; - Renewable technology; - Environmental norms.	Neutral
Legal	- contemporary changes in Internet legislation; - translation of all Internet representations into Ukrainian.	Positive

Source: Created by the author on her own research

For a more detailed analysis of the influence of external factors on starting a business, there is the concept of Porter's 5 Forces (see Table 2.3).

Using the five forces allows companies to analyze their competitive environment to come up with a strategy to improve their competitive advantage. The model also allows businesses to improve their profitability by giving them more information on the number of competitors, the power of their competitors, potential new market entrants, suppliers, customers, and possible substitute products.

Table 2.3 – Five competitive forces by M. Porter analysis of the Planguin App

Forces	Description	Threat assessment
Threat of Substitution	There are quite a lot of substitute products on the Ukrainian market, but all of them are represented by a complex interface and full-fledged ERP systems, which makes it difficult for entrepreneurs to work. These systems are designed for large businesses, not individual entrepreneurs. There is a need for a service that simply booking clients in a calendar without too much functionality.	high
Threat of New Entry	The new market launching need to come up with new technology or improve old models, but the launch requires large investments, not only in product development but also in its promotion, all this makes new launches on the market difficult.	middle
Supplies Power	In a market with high competition, it is quite difficult to increase the cost of services, a product, therefore, a rapid increase in prices from competitors is unlikely, as well as a price reduction, since, in the event of a price decrease, the product becomes unprofitable. Many providers offer flexible payment terms or basic free subscription periods. There are analogues with a free version, but limited functionality.	middle
Buyer Power	The e-service implementation must provide a free trial period. It is also easier for buyers when there is a fixed price for months, rather than complex payment packages. It is important for buyers that the service has a user-friendly interface and performs the function of making an appointment; many are looking only for a calendar for making an appointment.	high
Competitive struggle	There are 5 main participants in the Ukrainian market, 4 of them have been developing for more than 5 years and one new service. All these competitors are in the same price range and with the same problems: complex interface, many bugs, crashes. All competitors have weak marketing, only few use their strengths to the fullest.	high

Source: Created by the author on her own research

The Planguin application has a lot of competitive advantages have been derived after analyzing the external competitive environment of the Ukrainian market.

Many competitors are complex product that is not relevant to everyone. Complicating your interface with additional options, you complicate the work of the service and there are failures in its operation. Especially, great difficulties arose in the work of accounting for materials, finances and wages. Also, this approach significantly increases development costs and leads to an increase in problems in the service. There are additional benefits of Planguin development here, since the service does not plan to add other functions to the work.

The need for large financial resources is the main difficulty with a new entry into this market. Since this market is saturated with competitors and requires considerable effort to create a truly high-quality product, it is necessary to have enough financial resources to develop the service.

Customers have an active request for an application with calendar functionality, but no comprehensive resource management system. For them, proposals that involve warehouse accounting are complex and incomprehensible.

The interface of the Planguin App was created specifically for this consumer request, with the simplest possible design and setting up the service in a few clicks. With so many substitute products available, very few of them are making headway in marketing. Almost all services do not fully use marketing and devote very little time to the external representation of the brand. Only Yclient and EasyWeek are actively developing through digital marketing and partnership integrations, but again, not to the full extent. In this case, these channels need to use in the development of the Planguin service. The Planguin team planned to create an interesting marketing concept and increase the popularity of the service among the target audience.

When developing a successful strategy for launching a product on the market, it is necessary to study in detail all the opportunities and threats in the external and internal environment. For this analysis, the SWOT analysis methodology is perfect, which helps to analyze and group all the factors influencing the development of the service. It is also important not only to highlight the parties of influence but also to provide a possible solution or avoidance of risks/threats.

During the analysis of the competitive environment, additional changes in the operation of the Planguin service are possible. For example, many competitors had problems with payments for a long period and flexible discount packages, there were conflicts between users about the return of funds, or users did not understand how to make a payment. Such complexities worsen the customer experience and, as a result, reduce the number of active users. The Planguin app was decided to make the first month a free period, then a monthly subscription with a single tariff.

In particular, SWOT analysis gives a more accurate picture of additional opportunities for the service. The main advantage of the service is the solution to the user's key problem - "a beautiful calendar for self-scheduling an appointment with a client." The concept of a service has a particular intrinsic strength in the design of the interface and the concept of ease of use of the service (see Table 2.4).

Table 2.4 – SWOT analysis factors of the Planguin App development

Internal strategic factors	
Strengths	Weaknesses
- user-friendly interface; - fashionable application design; - simple functionality - only calendar entries; - one payment plan, the first month is free; - a separate link to the online scheduling calendar is generated - convenient for customers; - designed for individual use, private entrepreneur.	- the complexity of the development process: may be problems with the operation of the service in the testing period; - interaction with users, technical support of the service; - adaptability of application development for all types of devices; - insufficient financing of marketing activities.
External strategic factors	
Opportunity	Threats
- the target audience demand for such app; -competitors applications are complex; - low marketing activity of competitors; - an interesting general concept of the Planguin app.	- political and economic instability of the Ukrainian market; - rejection of the potential users.

Source: Created by the author on her own research

Strengths-opportunity strategy is useful concept to enroll a new product on the market when all positive feathers are using in promotion. Strengths and opportunities combining can predict a step-by-step action plan to obtain specific benefits:

1. Create a unique design for the requirements of the target audience.
2. Outperform competitors with a simple design and a convenient way to pay for a subscription – the one tariff plan.
3. Focus on the individual entrepreneur.
4. Think over a marketing strategy using social networks.

Weaknesses-strengths strategy. Weaknesses of the Planguin app can avoid of using strengths, for this:

1. Using only one function in the work of the application (booking an appointment) will help to significantly simplify development and remove work problems.
2. Due to the design for individual needs, you can add a chat support with the manager for improved communication.
3. Adaptability to all devices should be considered at the interface design stage.
4. A good marketing strategy can help you avoid significant financial investment.

A large number of opportunities of the Planguin application help protect against threats that arise in the market. Thus, a large demand in the market for such a service can reduce the impact of threats of a political and economic nature.

Weakness-threats strategy. The strategy for minimizing weaknesses and threats to the Planguin application should consist of the following main actions:

1. Improve the application development process by clear planning and improving the design of the application for all types of devices.
2. The Planguin app need to consider a support system for current users, so you can avoid the threat of large user failures from a subscription.
3. A good marketing strategy will help minimize all the risks of market fluctuations and reduce promotion costs.

One of the important positive external factors is an in-depth study of the needs of the target audience and the provision of a solution to the main problem. At the same time, the Planguin application takes into account the negative customer experience of

competitors and tries to avoid such problems in using the service. There are a lot of negative reviews from the point of view of the complexity of using competitors' applications; for many people, only a scheduling calendar is enough without unnecessary functional add-ons: accounting for salaries, finances, and leftover materials. This functionality contains a lot of programming bugs in counting and causes a negative client experience.

The Planguin app has the precise focus and positioning that it is an "appointment calendar" without unnecessary complication of the interface.

The Planguin application is still under development, so it is still difficult to evaluate the technical implementation of a given concept. There are many internal threats to the operation of the service; in the first period of operation, service failures usually occur, which can complicate the launch of the application on the market. In this case, it is important to calculate this fact and compensate for this with a high level of customer support.

The second important threat is the possible insufficient funding for the development of the service, since the development of a similar service requires significant financial investments, so all necessary costs should be taken into account and an additional budget should be provided.

But the biggest difficulty is the general situation on the Ukrainian market, a rather pronounced political and economic instability, which brings with it possible changes in purchasing power and a fall in consumer demand. In this case, it may be necessary to consider an additional option for entering an adjacent foreign market.

A key factor in the successful launch of the Planguin app is a well-thought-out marketing and brand strategy, which is based on a deep analysis of customer needs (see Figure 2.3). After a detailed analysis of the activity of competitors, the main problems of users were identified and integrated into the development of a common brand strategy. The main message of the brand is a simple way to book a client for an appointment, schedule and work with clients, simplify the mechanism for working with clients for users. An important point is that the main target audience are users of individual entrepreneurs who need to systematize time tracking and customer turnover.

The marketing strategy implementation plan to use non-standard promotion channels, which are also more modern and understandable. Working with the emotions of users is planned to create a corporate character with a positive perception and jokes about the pain of the target audience.

The second important success factor is the user interface of the Planguin app. After analyzing the needs of the target audience and the experience of competitors, the service adapted the idea to the client's market request. The main task is to create a beautiful and convenient calendar for making an appointment, clients do not have such functionality. Everything that is currently on the market is either difficult or incomprehensible. The Planguin app tries to fill this need with a well-thought-out user-friendly interface and modern design. The application does not provide other functional add-ons, which makes it simple and understandable in the hands of the user.

These superpowers are the development team and the constant pursuit of product quality improvement. One of the first goals of creating a service is a team with many years of experience in developing and launching products that wants to create a high quality product and satisfy the needs of consumers. The first few months of testing the product in a closed group of consumers are planned in order to launch a really high-quality product on the market.

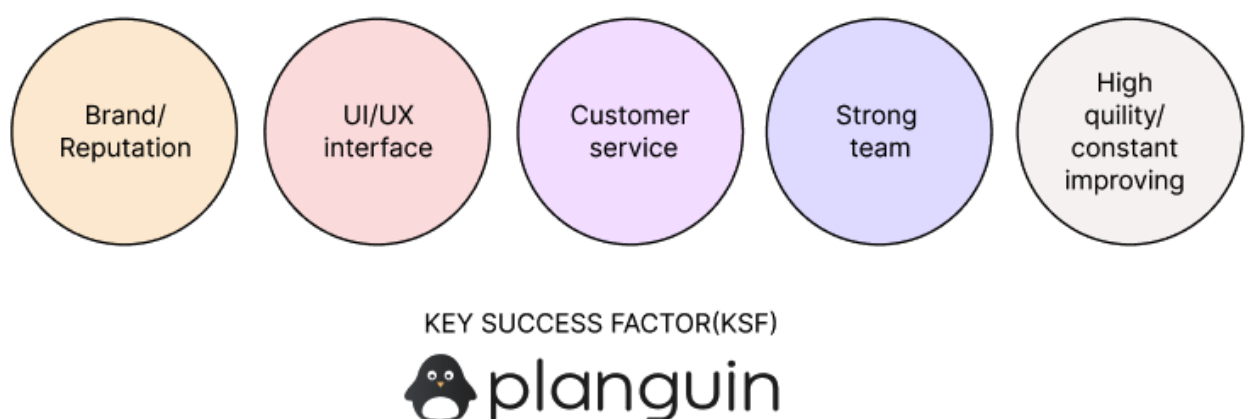


Fig. 2.3 - Key success factors of the Planguin app launching

Source: Created by the author on her own research

The most important success factor of Planguin app is the constant attention to the level of customer service, which is very important for e-services. Constant high-quality

technical support work will help improve customer experience and increase the number of real users.

In the process of developing the Planguin launch strategy, an in-depth study of the Ukrainian market, consumer demand and the competitive environment was carried out. The study of the external and internal environment of influence on the service gives the right direction in creating a comprehensive strategy for launching the product on the market.

RESUME

Planguin.io is an online application for two-way appointment of clients to a specialist or master (service provider). The service is a convenient calendar with a wizard's work schedule, which is displayed via an internal formulated link. The specialist (service provider) can send this link to the client so that he can choose the date and time for making an appointment. Such a link makes it possible to show the active work schedule of a specialist and free time for appointments. The link to this calendar can be used in personal social media and on the site in the form of a widget. Both the provider and the consumer of the service can make an appointment, as well as mark the appointment.

The main task of the service is to simplify the work of a specialist in working with clients, systematize the work schedule of the provider and improve client service. The basic principle of operation is a two-way online customer appointment making.

A successful concept of launching a new product requires a detailed analysis of the market needs and the experience of competitors in order to understand the desire of the target audience and avoid the mistakes of competitors in the service. The Planguin app began its creation with an idea and a real need of one of the founders, after studying consumer experience, a lot of amendments appeared in the work of the app.

The Planguin application is created for the Ukrainian market. There are sufficient number of similar services in this market, but all of them are complex or have an ugly design. The total number of similar services that could indirectly replace the product is up to 25, of which only 5 are the most active and relevant to our niche. Among them Yclients, Wlaunch, Simplybook.me, EasyWeek, Dikidi.

A key factor in the successful launch of the Planguin app is a well-thought-out marketing and brand strategy, which is based on a deep analysis of customer needs. After a detailed analysis of the activity of competitors, the main problems of users were identified and integrated into the development of a common brand strategy.

CHAPTER 3.

ONLINE SERVICE PLANGUIN.IO LAUNCHING STRATEGY DEVELOPMENT AND IMPLEMENTATION

3.1. New product launching strategy development

The formation of a strategy for launching a new product on the market is a voluminous and complex concept that includes all important aspects of the development and implementation of a product on the market.

The key aspects of a new product launch strategy are strategic concern, marketing concern and organization concern.

The strategic concept is the most important component, since it is responsible for the main positioning and, based on its basis, all the most important key decisions are made.

After analyzing the market and evaluating competitors, the Planguin application strategy was supplemented with a positive meaning. The main concept of the app is to create a maximally simple application for two-way appointments of clients. The app responds to a specific market request - a beautiful convenient online calendar to self-scheduling.

The main target audience is an individual entrepreneur who needs to systematize work with clients through the service.

Vision of Planguin app is “schedule appointment in 2 clicks on one simple web-link”.

The Planguin mission is an application that improves customer service and simplifies the work of individual entrepreneurs.

The main tasks of the life of the application are:

- 1) simplifying the work of a specialist:
 - all client data is collected in one place;
 - one clear work schedule;
 - effective time management;

- no difficulties in the operation of the service;
- saving time on customer appointments.

2) improvement of client service:

- the program allows the client to independently make an appointment;
- helps to cancel or reschedule an appointment without wasting time;
- appointment reminders.

The main goal of the Planguin app is attract more than 7000 target consumer from 3 years of work.

Innovation of Planguin refers to improving client service from new technology and update user experience in current situation. The innovative approach is to create a new better app based on the previous experience of competitors and precisely solve the problem of the target audience. Innovative approaches in user design and technologies, the use of innovative approaches to gamification elements in the service and the use of non-standard methods for promoting the app.

Thus, the product strategy is a creation of the most simple and understandable application for registering clients, which will help simplify work with the client base of individual entrepreneurs.

Based on this, the main positioning of the application is the simplest service for two-way appointments of clients, which anyone can understand, without complicating the interface. The Planguin app is a friendly service for accounting and maintaining a client base, which performs the functions of administering applications for making an appointment.

The main marketing task is to grow trust and love for the brand, and this is only possible when you get rid of consumer fears about buying an app subscription.

The concept is based on the cartoon character penguin, which subconsciously evokes positive emotions. This company hero helps to broadcast the company's core values and create an open dialogue with the consumer.

The main marketing strategy is based on these principles:

- positive emotions with the brand, broadcasting funny everyday stories with a penguin with an emphasis on the target audience;

- maximum proximity to the needs of the target audience: broadcasting clear proposals and solving problems in a certain situation;
- high level of customer service, the Planguin app does not take on all the functions but performs one key function with the highest quality;
- gamification in the process of interaction with users, subconsciously stimulates users to perform targeted actions.

After competitors analyzing can draw up a business strategy for the pricing policy of the application. The Planguin app promotion was chosen a focus strategy. This strategy is based on a clear targeting of a specific market segment, in this case, these are individual entrepreneurs who need such an app. And due to cost minimization, a low-price segment of the audience was chosen for work, so that the implementation of the app would cost less than a cup of coffee.

A marketing strategy creation needs to use the 5P concept, which will help describe all the necessary elements of implementations. The strategy helps to describe the key elements of a marketing strategy: product, place, price, people, and promotion.

One of the key characteristics of the application is a personal online page. A convenient link for online appointment making which can send it to instant messengers or leave it on social networks. Clients can use this link to make an appointment with a specialist (apps provider) on their own. Other main characteristics of the app are presented in Table 3.1, among them are the client appointment calendar, notification, service structure sheet.

In connection with the chosen cost focusing strategy, the cost of a subscription to the app is \$ 3 per month of using the service. After analyzing the negative experience of paying customers of competitors, the use of several tariff plans creates additional obstacles in the operation of the service, so it was decided to make only one subscription payment tariff per month. There is a free trial period of 30 days from the date of subscription to the app which use for sales stimulation.

The Planguin team consists of several key groups of people: the technical team, marketing team and customer service.

The technical team develops the app: a designer who creates the interface design, a front-end developer who develops the external pages of the application, and a back-end developer who creates the internal architecture of the application.

Table 3.1 - Marketing strategy 5P by F.Kotler for the Planguin

P-Product	1. Calendar journal of a client's appointment. 2. Schedule of the wizard (formation of the work schedule). 3. Convenient list of services and costs. 4. Client base (name, phone). 5. Notification of clients in convenient messengers. 6. Personal online web page. A convenient link for online appointment scheduling, which can send to instant messengers or leave it on social networks.
P-Price	- the price is lower than that of competitors - 3\$/month. - one simple tariff - a monthly subscription to the app, without complex payment schemes; - 30 days free trial period.
P-Place	In the Ukrainian market of individual entrepreneurs, the average frequency of requests per month is more than 3000 people.
P-People	- a professional team of developers and designers; - marketing team; - technical support staff for users of the service.
P-Promotion	Promotion channels: - own website for the presentation of the service and the possibility of registration; - pages in social networks; - personal brand of the founders; - cooperation with partners; - direct sales through a sales manager.

Source: Created by the author on her own research

The marketing team consists of a marketer, PR manager, advertising specialist, content manager, designer and copywriter.

User support of the service is provided by one account manager.

The marketing strategy for app promotion is based on digital approaches to product promotion. The main way to promote the product will be the Internet.

Among the main promotion channels:

1. Creation of a presentation website to describe the benefits of the app and the possibility of registering new users of Planguin.
2. Registration and maintenance of pages on social networks Facebook, Instagram, YouTube. Active work with the audience in the most convenient format of interaction with the target audience.
3. In the modern world, it is very important to develop the personal brand of the founders of the application, so this promotion channel also needs to be developed.
4. Integration with partner financial accounting services, instant messengers and social networks, website builders, etc. Such cooperation gives a good boost at the beginning of an activity.
5. Direct sales through a sales manager. One of the important promotion channels at the beginning of app development. Since this channel helps to gather a group to test and improve the service.

Points of growth in comparison with competitors are also important find. For the Planguin app, the main advantages in development are:

- 1) high quality of the product. Due to the small functionality of the app can get the opportunity to make the highest quality interface of the service.
- 2) simplification of work. Many applications on the market are very complex in user experience. The Planguin app strives to be convenient and easy to use.
- 3) use of social networks. Competitors practically do not use this promotion channel to the full extent, so the Planguin app can get an additional key advantage here.
- 4) thoughtful communication strategy. For the Planguin application, a unique communication strategy is being developed, through the cartoon character of the service.

3.2. Innovative product development cost analysis

Important things of economic confirmation of the effectiveness of investment in the development of the Planguin app is calculation of investments to launch a new product on the market. The Planguin app developing, it takes 2-3 months of work for the

product development and testing team, the cost of developing the application is \$7700 (see the Table 3.2).

Table 3.2 - Total costs of the Planduin product launching*

Description of expenses	Costs (\$)
Product development	7700
UI/UX design concept	1200
Frontend development	2500
Backend development	3000
Testing	1000
Marketing & Promotion	6100
Market research	1200
Communication strategy	
Branding	700
Website building	1200
SMM. Content creation.	1500
Promotion budget	1500
Administrative expensive	1500
Amount costs	15300

**these costs will spend 3-4 months of development and first launching.*

Source: Created by the author on her own research

The marketing team conducts marketing research on the target audience, creates a communication strategy for promoting the service, develops a website for the presentation of the application, and creates all additional advertising activities. This work was estimated at \$6,100, with an estimated completion time of 2-3 months from the moment the application was created. The detailed calculation is presented in Application A.

There are also various administrative costs: legal registration and support, a manager for client service, these costs are estimated at \$ 1,500 (Application A).

The first 3 months of a product launch on the market are estimated at a total budget of \$15,300 (Application A).

After the successful launch of the project, the company needs marketing activities and administrative monthly costs. At the Planguin app plan to use amount of these expenses is \$3,000. A minimum of 1000 active users of the application is required to pay

off these monthly costs, but still need to calculate the return on investment for the period of the product launch on the market.

Google data is used to predict demand in the Ukrainian market. Using keywords relevant to the user's request can predict the average monthly user request for similar products. The analysis included 91 popular keywords and the total monthly frequency is 3950. On average, 3950 times users search Google for a similar service, from here can take the estimated amount of the possible potential audience - 2000 people per month can become a potential client of the Planguin service. (Application B).

In addition, there are dissatisfied customers of a competitor who can potentially purchase a product and people who have a hidden need and need to convey the usefulness of the service.

The number of new user's prediction use 2 scenarios for the development of 30% and 20% of all potential traffic. It turns out that with an even distribution, it is planned to attract new consumers by 600 and 400 users per month (see Figure 3.1). The distribution figures are indicative, since for service businesses successful collaborations with a partner are possible and an increase of 1000 people per month is possible at once.

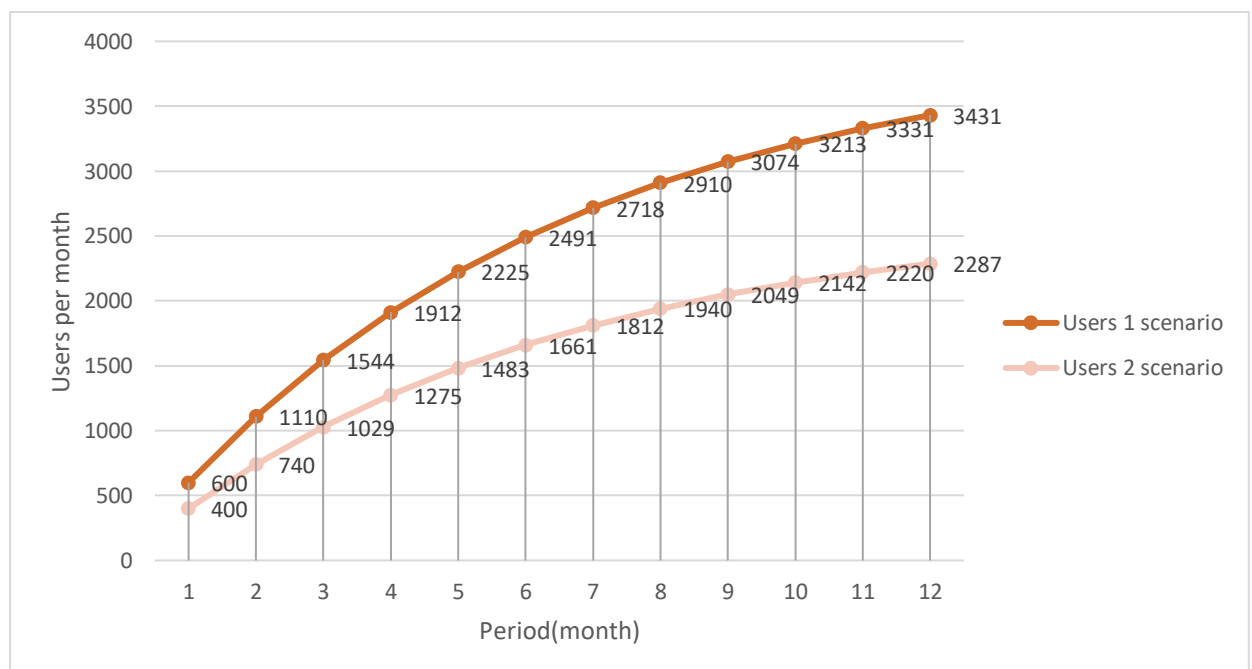


Fig. 3.1 - Increasing of the active users of the Planguin per month

Source: Created by the author on her own research

For a service business, it is also important to consider the number of service unsubscribes. In this case, an unsubscribe rate of 15% monthly is used, so the growth dynamics is uneven.

Thus, the planned number of users at the end of a 12-month period (1 year) is: for the first scenario - 3431, for the second - 2287.

With such a planned number of audience growth, it is possible to predict the planned profitability of the Planguin app. Given that the first month of use is free, then the monthly payment is \$3. Therefore, growth equations must be taken into account. It turns out this formula for 2 months:

$$\text{Month 2 Revenue} = (\text{Number of users in 1 month} * \text{Unsubscription rate}(15\%)) * \text{subscription fee cost}(\$3) + \text{New users 2 months} * \$0 \quad (\text{formula 3.1})$$

Other months are calculated similarly.

Thus, the predicted income for the first scenario in the second month is \$1530, and for the second scenario it is \$1 020.

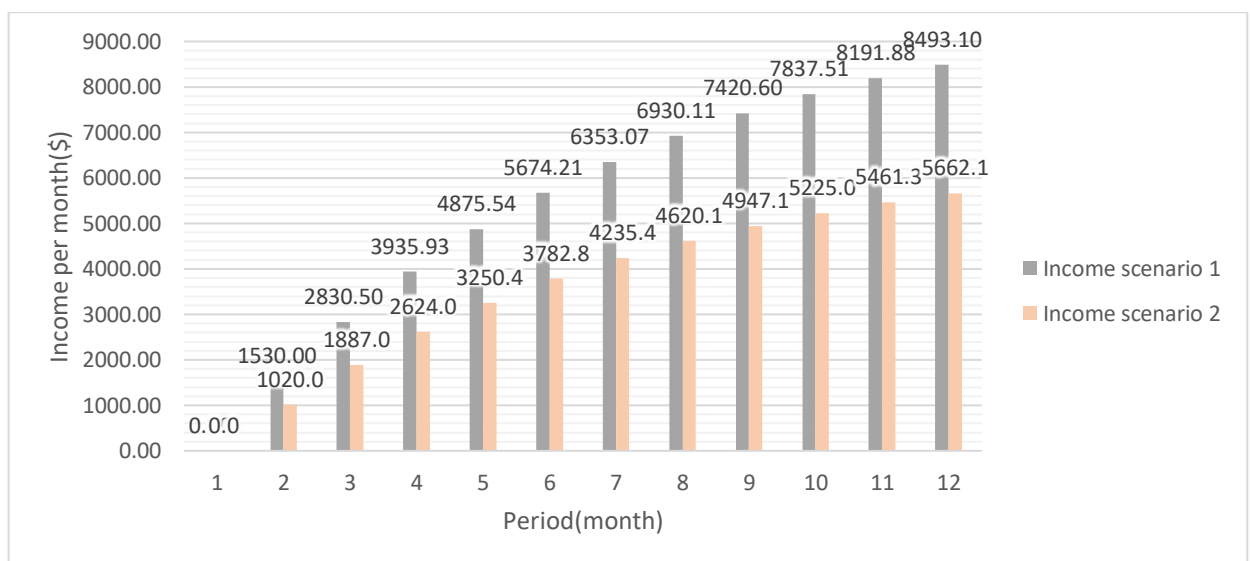


Fig. 3.2 - Planning income of the Planguin app per month

Source: Created by the author on her own research

The planning amount of turnover (Revenue) without discounting is for the first scenario \$64 072, for the second - \$42 715. Such amounts already pay off the first investments during the first year, but for a more accurate forecast of payback and the need to invest funds, it is necessary to take into account additional costs during the year.

Forecasted investments of work for this budget will be completed within the first 3 months, then the planning costs for maintaining the service will be \$3 000 per month.

Cash flows in dollars discount to determine the discount rate. The discount rate consists of various coefficients of profitability, inflation in the country, risk assessment coefficient. The best option to determine this ratio is to use the bank loan rate - 7% which shows all these coefficients in one figure. In the Ukrainian market, the lowest interest rate on loans in dollars starts from 5%. On average, 6-7% of business funds are worth dollars in Ukraine. In the calculation, it is better to take the highest rate in the state bank of 7%.

Discounting payments is necessary to equate the amounts of payments to the same level and an equivalent assessment of the effectiveness of investments.

NPV is a coefficient that shows the effectiveness of investments. For this coefficient calculation all payments discount depending on the period.

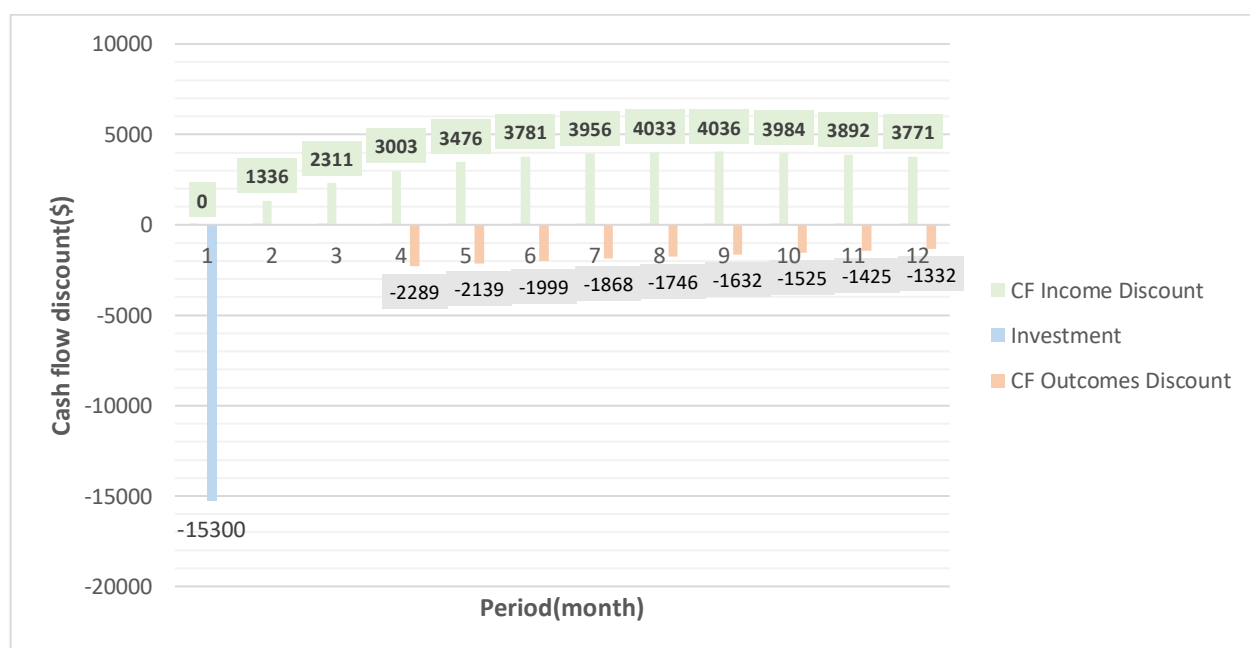


Fig. 3.3 - First scenario discount Cash flow for 12 months (\$)

Source: Created by the author on her own research

For the first scenario, the sum of the discounted value of cash flows (incoming, outgoing) is shown in Figure 3.3. The detailed calculation is at Application C. The investment is discounted in the zero period.

Thus, for the first scenario, the NPV is \$6325. A positive NVP within 12 months indicates that also earned during the year and a project is attractive to invest. For the first scenario, the payback period is 258 days.

For the second scenario (see Fig. 3.4) 12 months is not enough for a return on investment, so more time must be used. According to the second scenario, the first profit of the project is planned after the 18th month of operation.

NPV for the first option (12 months) - \$- 6201,8

NPV for the second option (18 months) - \$378.

This pessimistic scenario show that all investment return after 18 months of the Planguin app work.

For understanding of the profitability of an investment need to calculate the internal rate of return.

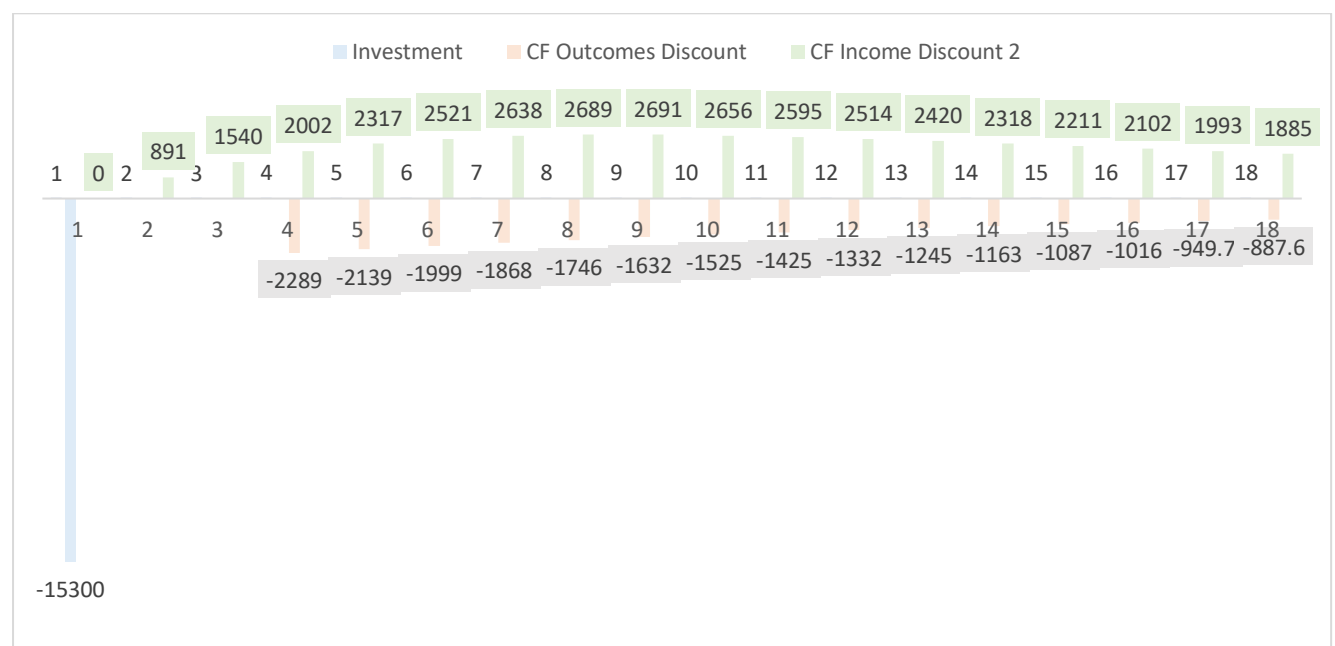


Fig. 3.4 - Second scenario discount Cash flow for 17 months (\$)

Source: Created by the author on his own research

The IRR for the first scenario is 5%, which is much more profitable than a bank deposit in dollars - 2.5% per annum. For the second scenario, the IRR is 4%, which is also more profitable than a bank deposit.

Based on these calculations, it can be concluded that investing in the project can be profitable. The return on investment for the first scenario occurs within 12 months, and for the second scenario within 18 months of active work on the project.

For similar IT projects and startups with an emphasis on the idea, the concept of promotion, a significant increase in users is possible due to the right partnership or marketing policy. A very strong marketing concept is planned for the Planguin app, which is the widespread use of direct sales, affiliate integrations and additional emotional attachments. Given the detailed analysis of the market request and a clear response to it by the application, a significant increase in sales is expected in the first 5 months of the service.

An important indicator of the effectiveness of investments is the rate of return on investment (ROI). Which shows the profitability of the invested funds, which means the profitability of the project. For the first case of investment, the profitability is 20% if the investment period is 12 months and we consider an optimistic sales scenario. Thus, it turns out that every 1 dollar invested brings in 20 dollars.

For the pessimistic scenario, the return on investment is only 1%, which shows the rather dubious nature of the investment. This is a normal situation for startups and IT businesses. There is a very important ideological component in the nature of such enterprises because the project can take off rapidly if there is a good idea. But even in the presence of a pessimistic scenario, the return on investment comes at 18 months, which is already less than 2 years of investment. For many investors, a 2-3 year payback period is a normal indicator.

For reducing production cost of the new product launching need to consider alternatives of implementation (see Table 3.3).

The project has such variants of development process: outsource team development or agency team of development, using customer support agency and collaboration with partner services. All alternative compare for such factors: cost, time, customer satisfaction, influencing for the company.

The outsource team development is the best alternative to use for increasing resultativity of implementation a new product development. This way helps to decreasing cost for production and time of work.

Table 3.3 – Alternative variants for implementation Pldnguin App launching strategy

Alternative	Cost	Time	Customer satisfaction	Influencing for the company	SUM
Outsource team development	5	4	4	5	18
Agency team development	1	3	4	5	13
Use customer support agency	4	3	5	5	17
Collaboration with partner services	2	2	5	5	14

**Cost: 1- much expensive, 5 - cheap; time: 1- longer; 5- short; customer satisfaction: 1 – bad, 5 – good; influencing for the company: 1 – ineffective, 5 – more effective.*

Source: Created by the author on her own research

The Planguin app is an economically interesting investment, but it is very important to correctly distribute the efforts in the development and the process of launching the product on the market. The key performance indicator of the project will be the growth of active users of the application, their monthly increase and a decrease in the outflow of current users.

3.3. New product launching management and social responsibility

The launch of an innovative product on the market consists of several main stages: creating a strategy, calculating the necessary costs for the project, and creating a plan for successive actions. After creating a strategy, you need to create a step-by-step plan for executing this strategy.

The Planguin development plan consists of several main stages: development, marketing activity and implementation of the MVP product. For the development of the service, it is necessary to plan the main work processes.

The first stage of work is the development of the basic version of the application. The planned period of the development process is 01.04-30.06.

This stage consists of the stages of design development, external and internal development, and product testing.

The project work organization consists of:

1. Project Statute (Table 3.4)
2. Analysis of key stakeholders in the project.
3. Designated organizational structure for the project.
4. Defining the structure of the design work. (Application A)
5. Project risk management plan for responding to them. (Table 3.5)

Table 3.4 – Planguin project statute

Project description	Planguin web app developing and launching
Goal	Development, launch web app service Planguin and attract 3000 first users
Customers' needs	Scheduling calendar for clients with two-ways registration in the appointment, data collecting of clients, common communication channels
Customer requirements	A clear and simple app for work
Result of the project	Planguin app generated
Implementation phases	Concept creation; web design development; front-end and back-end development; marketing research and launch activity
Project risks	Increase employee wages; more bugs in the first stage of launching; competition and rejection of consumers.
Project Team	Team lead of the project (founder), Head of development (Co-founder), outsourced development team, outsourced marketing team, support manager
Terms and budget of the project	3 months, 01 April – 30 June. Budget – \$15 300.
Time and budget restrictions	Deviation of the budget no more than 30% from the planned, deviation on terms no more than 2 weeks.
Required reports	Invoices for payment, acts of delivery and acceptance of works on the fact. Reports on development and marketing activity.

Source: Created by the author on her own research

A Project Statute with basic characteristics was created for the Planguin project. In Table 3.4. shows all participant of the project team.

The main stakeholders of the project are the team lead of the project and founder Planguin app. The team leader is the main manager of all processes in the Planguin app launch project. All outsourcing teams report to him: the development team, the marketing team and the support team. See the structure of the project team in the Figure 3.5.

The key decision makers of the project are the Team Leader (Founder) and the Head of Development (Co-Founder). The project team leader is responsible for the work of the marketing outsourcing company and the customer support department. The Head of development is responsible for product development and regulates the work of the outsourcing team. Each of the heads of these areas submits reports in accordance with the work plan.

The main list of work with the amount of spending time and price rate is given in Application A. All work plan showed in the Figure 3.6.

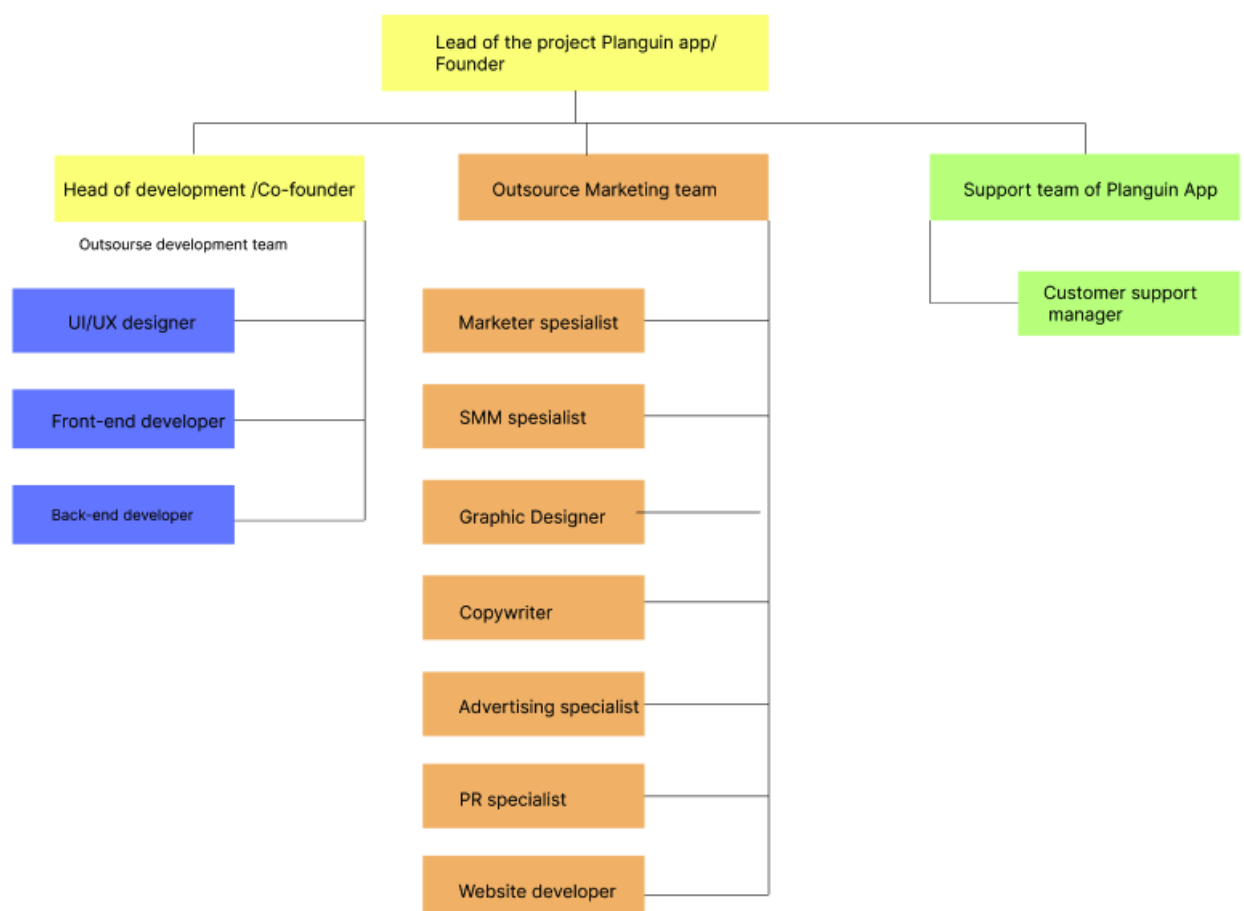


Fig. 3.5 - The Planguin project team structure

Source: Created by the author on her own research

Application design development contains several business processes:

1. Creation of a design concept by the development team.
2. Thinking through the usability of the interface and application architecture.
3. Creating an application design by an interface designer.

4. Design approval by the development team.
5. Preparation of design for development.

The planned period of the design development – 01.04 -30.04.

The next stage of backend development, consists of the main stages:

1. Connect cloud storage servers and other settings.
2. Creation of a registration cabinet for users.

3. Development of the main architecture of the application: an active calendar, a system for adding services, a system for adding user information, and a system for adding a client base and interacting with it.

4. Architecture connections for front-end development.
5. Connect additional integrations and notification services.
6. Connecting the application payment system.
7. Other development work.

The estimated period of work – 10.04-31.05.

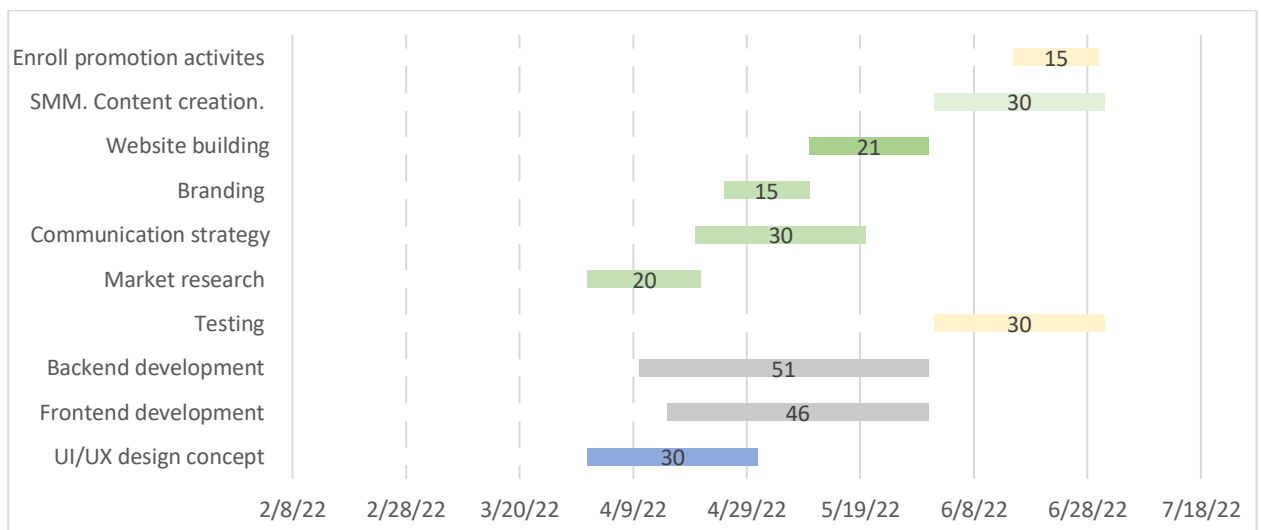


Fig. 3.6 - Development process of Planguin app 01.04 - 30.06

Source: Created by the author on her own research

Also, a parallel stage of work is front-end development, which is the programming of the visible pages of the application: the main page, the calendar functionality, the tab for adding user information, the list of services tab, the tab for the list of clients, additional internal pages. Planned period of work – 15.04-31.05.

Marketing research begins in parallel with the creation of the application design and helps to improve the quality of the interface and adapt it to the target audience.

Marketing research consists of:

1. Research the market and competitors.
2. Search for foreign analogues and alternative applications.
3. Research the target audience according to the methodology.
4. Creation of a marketing report and recommendations.

Period of the research – 01.04-20.04.

After conducting marketing research, it is necessary to create a communication strategy and a general brand concept for the design of the Planguin app. This phase is planned 20.04 – 15.05.

Development of the Planguin website to present the key benefits of the application and the ability to subscribe to users. This stage consists of several activities:

1. Creation of the site design concept.
2. Website design development.
3. Writing texts for the site.
4. Development of the site and its content.
5. Launching the site and connecting the integration forms.

This phase is planned for 10.05 – 31.05.

The product testing phase occurs after the full development of the application. It is planned to gather a focus group of 20 people for the first testing of the application in real conditions. During testing, there will be improvements in the interface and bug fixes. Period of the testing – 01.06 - 30.06.

The key moment of the first launch of the product on the market. Prior to this, it is planned to launch preliminary advertising of the product to increase product awareness in the market. The main competitive advantage of the Planguin app is the marketing concept of product promotion.

A modern concept of promotion is based on a positive association among penguin users and the use of trending mechanics to promote the service.

During the product launch phase, active social media marketing techniques are planned, as well as additional collaborations with popular influencers. Another additional

channel for promoting the Planguin app is the creation of an affiliate network of interaction through direct sales and integration with affiliate applications.

Thus, when all stages of the development of the application are carried out within the specified period, the full launch of the application is planned for June 30.

Table 3.5 – Risk evaluation of the Planguin project launching

PARAMETER		Probability - Pr	Impact - I	Criticality (Pr*I)	Conclusion
1	Market instability	3	5	15	Occasional/ critical
2	Low sales	3	5	15	Occasional/ moderate
3	Testing period of work have bugs	3	5	10	Occasional/ moderate
4	Increasing of employee wages	2	3	6	Seldom/ critical
5	Work above deadline and budget	3	4	12	Occasional/ moderate
TOTAL SCORE		2.75	4.4	9.2	Occasional /moderate

Source: Created by the author on her own research

The assessment of all possible risks of the company during the launch of the Planguin product on the Ukrainian market is presented in Table 3.6.

The biggest impact and worst control of the external risks of the project: economic instability, sales and rising wages. These risks have a great impact and can be controlled only by creating an additional reserve fund at the enterprise. In case of instability in the Ukrainian market, it will be necessary to look for a new market and adapt the service to it.

Internal risks are more controlled and also have a significant impact on the effective development of enterprises. Among them for the Planguin project: discrepancy between the deadline and the project budget, a large number of errors in the service at the first stage. These risks are reflected in the effective management and periodic reporting of departments.

One of the important aspects of developing a new strategy is corporate social responsibility. The Planguin project is designed to solve the main social problem of customers - "burnout" at work. Planguin helps prevent burnout and improve overall well-being.

Customers of this application always have a lot of tasks during the day and unsystematic work planning. This is called "burnout" when people have an imbalance between work and personal life and then have physical and mental health problems. The Planguin application helps to organize work planning, reduce multitasking and improve customer service.

The problem of burnout in the work schedule of man is gaining popularity in the modern world. With the development of technology, most people spend on a smartphone or computer constantly, in addition, unregulated work schedules and work with clients have a strong impact on mental health.

Emotional burnout syndrome (hereinafter - CME) is physical, emotional or motivational exhaustion. This syndrome is usually regarded as a stress response in response to production and emotional demands arising from excessive devotion to one's work. At the same time, the accompanying contempt for family life or leisure is typical.

The state of emotional burnout is characterized by the following symptoms:

- the feeling of constant fatigue;
- increase the frequency and intensity of headaches;
- insomnia;
- deteriorating health;
- irritability;
- unwillingness to do their job.

Causes of emotional burnout:

- long work at a busy place;
- high load, in particular emotional;
- multitasking;
- unregulated work schedule;
- the unfavourable socio-psychological climate in the team;

- lack of proper remuneration for work.

Burnout causes problems with the intensity and quality of work, so its prevention helps to increase efficiency and overall well-being. The Planguin service helps to improve the work of the provider and systematize the work, preventing burnout. The service plans time with breaks by regulations, so the person feels less tired during the day. It also reduces the burden on the person as you need to talk less to customers and not be distracted at work.

RESUME

The first 3 months of a product launch on the market are estimated at a total budget of \$15,300.

Important things of economic confirmation of the effectiveness of investment in the development of the Planguin app is calculation of investments to launch a new product on the market. The Planguin app developing, it takes 2-3 months of work for the product development and testing team, the cost of developing the application is \$7700.

The marketing team conducts marketing research on the target audience, creates a communication strategy for promoting the service, develops a website for the presentation of the application, and creates all additional advertising activities. This work was estimated at \$6,100, with an estimated completion time of 2-3 months from the moment the application was created. There are also various administrative costs: legal registration and support, a manager for client service, these costs are estimated at \$ 1,500.

The number of new users prediction use 2 scenarios for the development of 30% and 20% of all potential traffic. It turns out that with an even distribution, it is planned to attract new consumers by 600 and 400 users per month.

The planned number of users at the end of a 12-month period (1 year) is: for the first scenario - 3431, for the second - 2287.

The planning amount of turnover(Revenue) without discounting is for the first scenario \$64 072, for the second - \$42 715.

For the first scenario, the NVP is \$6325. A positive NVP within 12 months indicates that also earned during the year and a project is attractive to invest. For the first scenario, the payback period is 258 days.

The second scenario show that all investment return after 18 month of the Planguin app work.

The IRR for the first scenario is 5%, which is much more profitable than a bank deposit in dollars - 2.5% per annum. For the second scenario, the IRR is 4%, which is also more profitable than a bank deposit.

For similar IT projects and startups with an emphasis on the idea, the concept of promotion, a significant increase in users is possible due to the right partnership or marketing policy. A very strong marketing concept is planned for the Planguin app, which is the widespread use of direct sales, affiliate integrations and additional emotional attachments. Given the detailed analysis of the market request and a clear response to it by the application, a significant increase in sales is expected in the first 5 months of the service.

The outsource team development is the best alternative to use for increasing resultativity of implementation a new product development. This way helps to decreasing cost for production and time of work.

The Planguin app is an economically interesting investment, but it is very important to correctly distribute the efforts in the development and the process of launching the product on the market. The key performance indicator of the project will be the growth of active users of the application, their monthly increase and a decrease in the outflow of current users.

CONCLUSION

The e-services market is rapidly developing due to the great popularity of automation and improving the quality of life of people. Every year the number of e-services is constantly growing and new areas of their application in people's lives appear. E-services products are always based on innovation.

The invention is the conception of the idea, whereas innovation is the subsequent translation of the invention into the economy.

Innovation is the management of all activities associated with the process of generating ideas, developing technologies, manufacturing and marketing a new (or improved) product, manufacturing process or equipment.

There are several main components of creating a new product: research and development, production, and marketing.

The new product launch strategy on the market is one of the most important stages of development, which defines the key foundation for market positioning, translates the main concept of the product, the main directions of development of marketing companies and the overall interaction of the product with the market. This stage is often referred to as product commercialization means that the product begins to be sold on the market and shows the first commercial results.

There are two key elements in the formation of a strategy: the internal characteristics of the company (goals and value; resources and capabilities; structure and systems) and external factors of influence (competitor; customer; suppliers).

Effective implementation of the new innovative product strategy should consist of detailed characteristics of resources and give an understanding of how it used, safe or increasing; analytics of competitive environment gives more possibility to avoid negative experience and set key successful factors; and the main characteristic of successful strategy is consistent, simple and long-term goals.

Planguin.io is an online application for two-way appointments of clients to a specialist or master (service provider). The service is a convenient calendar with a wizard's work schedule, which is displayed via an internal formulated link. The specialist

(service provider) can send this link to the client so that he can choose the date and time for making an appointment. Such a link makes it possible to show the active work schedule of a specialist and free time for appointments. The link to this calendar can be used on personal social media and the site in the form of a widget. Both the provider and the consumer of the service can make an appointment, as well as mark the appointment.

The main task of the service is to simplify the work of a specialist in working with clients, systematize the work schedule of the provider and improve client service. The basic principle of operation is two-way online customer appointment making.

A successful concept of launching a new product requires a detailed analysis of the market needs and the experience of competitors to understand the desire of the target audience and avoid the mistakes of competitors in the service. The Planguin app began its creation with an idea and a real need of one of the founders, after studying consumer experience, a lot of amendments appeared in the work of the app.

The Planguin application is created for the Ukrainian market. There is a sufficient number of similar services in this market, but all of them are complex or have an ugly design. The total number of similar services that could indirectly replace the product is up to 25, of which only 5 are the most active and relevant to our niche. Among them Yclients, Wlaunch, Simplybook.me, EasyWeek, Dikidi.

A key factor in the successful launch of the Planguin app is a well-thought-out marketing and brand strategy, which is based on a deep analysis of customer needs. After a detailed analysis of the activity of competitors, the main problems of users were identified and integrated into the development of a common brand strategy.

According to the author, the creation of the Planguin service will be able to significantly improve the work of individual companies that need systematic work with customers and maintain a calendar of visits.

The main characteristics of the service:

- 1) a simple link in the form of a site to the calendar, which allows anyone to choose a convenient time and date to visit and make an appointment;
- 2) systematization of work: setting the schedule and list of services provided;

3) work with the customer base: a collection of customer data, rapid monitoring of information, and notifications for customers.

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Similar innovative projects show good economic and social efficiency in all areas of e-service. The Planguin project is extremely profitable to invest in as the internal profitability of the project is 4-5% when investing in dollars, which is more than the deposit rate(2,5%). The payback period is 12 or 18 months in different scenarios, and the effectiveness of the project has a communicative effect in case of a successful market launch, the app can get an extraordinary return for 3 years of the project. The analysis of all indicators provided an opportunity to say that the Planguin app project is attractive for investment.

Given the need of the target audience for such a service in the Ukrainian market and an interesting marketing concept, the project can actively develop under the most pessimistic forecasts. The adaptability of the interface makes it possible to use the application in international markets, in case of development problems in the Ukrainian market.

SOURCES

1. Paul Trott / Book “Innovation Management and New Product Development” / published 2017, Pearson Education 2002, 2005, 2008, 2012, 2017
2. Robert Grant / Book “Contemporary Strategy Analysis” / 2010 Robert M. Grant Published by John Wiley & Sons Ltd
3. Michel Porter/ Book “Competitive Strategy: Techniques for Analyzing Industries and Competitors” Jun 3. 2008, 35–40.
4. Phillip Kotler/ Book “Marketing management”/ 2012, Pearson Education, Inc., publishing as Prentice Hall, One Lake Street, Upper Saddle River, New Jersey 07458
5. Michael A. Hitt/ Book “Strategic Management Competitiveness and Globalization”/ published 2017, 2015 Cengage Learning
6. Merle Crawford and Anthony Di Benedetto/ Book “New Products Management”/published 2010 — 10th ed. 2011 by The McGraw-Hill Companies, Inc.
7. Robert G. Cooper / “Winning at New Products: Accelerating the Process from Idea to Launch”, 3rd ed./ Cambridge, MA: Perseus Publishing, 2001.
8. Tom Whatley Article “How to Build a Product Launch Strategy”/ published Jun 25, 2021, src: <https://cxl.com/blog/product-launch-strategy/>
9. Article “Product Launch Strategy: Everything You Need To Know” , by Indeed Editorial Team/ published April 8, 2021, src: <https://www.indeed.com/career-advice/career-development/product-launch-strategy>
- 10.“The definition and classification of innovation” Timur, KOGABAYEV HOLISTICA Vol 8, Issue 1, 2017, pp. 59-72
- 11.Statista. E-services analysis/ src: <https://www.statista.com/outlook/dmo/eservices/worldwide>
- 12.Wikipedia. Definition of e-services / src: https://en.wikipedia.org/wiki/E-services#cite_note-6

13. Freedman, Lawrence/ Strategy / 2013 Oxford University Press. ISBN 978-0-19-932515
14. Simeone, Luca / "Characterizing Strategic Design Processes in Relation to Definitions of Strategy from Military, Business and Management Studies" / The Design Journal, 3 July 2020, 23 (4): 515–534.
15. Mintzberg, H. Ahlstrand, B. and Lampel, J. "Strategy Safari : A Guided Tour Through the Wilds of Strategic Management" / The Free Press, New York, 1998.
16. The Concept of Strategy / Jan 01, 1981 By Bruce Henderson, URL: <https://www.bcg.com/publications/1981/concept-of-strategy>
17. "Cost benefit factor analysis in e-services", Jie Lu and Guangquan Zhang, URL: <http://iceb.johogo.com/SI/IJSIM-06.pdf>
18. The Startup Market Lifecycle, By Rizwan Virk Aug. 25, 2020, URL: https://ssir.org/books/excerpts/entry/the_startup_market_lifecycle
19. A Hot Startup Market Demands You Prioritize Customer Experience., BY KRISTEN DURHAM/ URL: <https://www.inc.com/kristen-durham/a-hot-startup-market-demands-you-prioritize-customer-experience-heres-how.html>
20. Mobile Applications Market Research/ URL: <https://www.unlocking-potential.co.uk/wp-content/uploads/2019/06/Mobile-Applications-Market-Research.pdf>
21. Bhushan, Dr. Amarendra (March 8, 2016). "CEO Insiders: America's Top 25 E-commerce Retailers by Sales". *CEOWorld Magazine*. Retrieved June 4, 2016, URL: <https://ceoworld.biz/2016/03/08/americas-top-25-e-commerce-retailers-sales/>
22. Rogers, Kate (April 27, 2015). "How e-commerce helps US small businesses go global". *CNBC*. Retrieved June 14, 2017, URL: <https://www.cnn.com/2015/04/27/how-e-commerce-helps-us-small-businesses-go-global.html>
23. Vavra, Shannon (May 8, 2017). "Chinese E-Commerce Boom — Bigger Than US, UK Combined". *axios.com*. Retrieved June 4, 2017, URL: <https://www.axios.com/2017/12/15/chinese-e-commerce-boom-bigger-than-us-uk-combined-1513302135>

24. "The Rise of China's New Consumer Class". *Goldman Sachs*. Retrieved June 4, 2017, URL: http://www.goldmansachs.com/our-thinking/macroeconomic-insights/growth-of-china/chinese-consumer/index.html?cid=PS_01_50_07_00_01_15_01&mkwid=uui8CuV3
25. Sheth, J.N., Sharma, A., (2007). E-Services: A framework for growth. *Journal of Value Chain Management*, 1(1/2)
26. Heiner and Iyer (2007) E-Service opportunities and Threats, *Journal of value chain management*, 1, 11.
27. Wu, Philip F. (2009). User Acceptance of Emergency Alert Technology: A Case Study. *Proceedings of the 6th*
28. Grönlund, Å., Hatakka, M. and Ask, A. (2007) 'Inclusion in the E-Service Society – Investigating Administrative Literacy Requirements for Using E-Services'. 6th International Conference (EGOV 2007, Regensburg, Germany), 4656
29. Bannister F. (2007). The curse of the benchmark: an assessment of the validity and value of e-government comparisons, *International Review of Administrative Sciences*, 73 (2), 171-188
30. Asgarkhani, M. (2002). Strategic Management of Information systems and Technology in an e-World", *Proceedings of the 21st IT Conference, Sri Lanka*, pp103-111

Cost budget of the Planguin app

Table A.1 – Product development buget of the Planguin app

Description of expenses	Time of work	Rate per hour	Costs(\$)
Product development	387		7700
UI/UX design concept	120	10	1200
Frontend development	100	25	2500
Backend development	100	30	3000
Testing	67	15	1000

Table A.2 – Marketing and promotion buget of the Planguin app

Description of cost	Time of work	Rate per hour	Costs(\$)
Marketing & Promotion	192		6100
Market research	48	25	1200
Communication strategy			
Branding	35	20	700
Website building	34	35	1200
SMM. Content creation.	75	20	1500
Promotion budget			1500

Table A.3 – Administrative expensive budget of the Planguin app

Description of cost	Time of work	Rate per hour	Costs(\$)
Administrative expensive	144		1500
Suppeor manager wages	129	7	900
Autsoure accounting and law services	15	40	600

Table B.1 – Google keywords average monthly searches in Ukraine 2021-2022 years

Keyword	Currency	Avg. monthly searches
сервис для записи клиентов	UAH	50
журнал записи клиентов онлайн	UAH	50
запись клиентов онлайн	UAH	50
приложение для записи клиентов	UAH	50
программа для записи клиентов	UAH	50
сервис записи клиентов	UAH	50
календарь записи клиентов	UAH	50
сервис для записи клиентов сто	UAH	
сервис записи клиентов для стоматолога	UAH	
журнал записи клиентов	UAH	50
журнал для записи клиентов	UAH	50
онлайн запись клиентов	UAH	50
журнал записи клиентов скачать бесплатно	UAH	50
программа для записи клиентов бесплатно	UAH	50
календарь для записи клиентов	UAH	50
онлайн календарь для записи клиентов бесплатно	UAH	50
приложение для записи клиентов на маникюр	UAH	50
программа для записи клиентов в салоне красоты	UAH	50
гугл календарь для записи клиентов	UAH	50
бесплатное приложение для записи клиентов	UAH	50
запись клиентов приложение	UAH	50
программа для записи клиентов скачать бесплатно	UAH	50
приложение для онлайн записи	UAH	50
журнал записи клиентов бесплатно	UAH	50
приложение для записи клиентов на айфон	UAH	50
бесплатный сервис для записи клиентов	UAH	50
приложение для записи клиентов бесплатно	UAH	50
приложение для ведения записи клиентов	UAH	50
приложение для записи клиентов на маникюр бесплатно	UAH	50
сервис онлайн записи клиентов	UAH	50
календарь для записи клиентов бесплатно	UAH	50
программа для ведения записи клиентов	UAH	50

приложение для записи на маникюр	UAH	50
бесплатная программа для ведения записи клиентов	UAH	50
программа записи клиентов	UAH	50
бесплатная программа для записи клиентов	UAH	50
онлайн запись для клиентов	UAH	50
программа для записи клиентов на маникюр	UAH	50
журнал для записи клиентов в салон красоты	UAH	50
виджет онлайн записи	UAH	50
программа для записи клиентов на айфон	UAH	50
бесплатная онлайн запись клиентов	UAH	50
программа для записи клиентов бесплатно для андроид	UAH	50
программы для онлайн записи клиентов	UAH	50
создать сайт для записи клиентов	UAH	50
электронный журнал записи клиентов	UAH	50
сайт для онлайн записи клиентов	UAH	50
график записи клиентов	UAH	50
приложение для записей клиентов	UAH	50
электронный журнал для записи клиентов	UAH	50
программа для записи клиентов на андроид	UAH	50
онлайн запись клиентов в салоне красоты	UAH	50
ведение записи клиентов	UAH	50
программа онлайн записи клиентов	UAH	50
приложение для записи клиентов ios	UAH	50
запись клиентов в салоне красоты	UAH	50
онлайн календарь для записи клиентов	UAH	50
запись клиентов онлайн бесплатно	UAH	50
запись клиентов программа	UAH	50
программа для онлайн записи клиентов	UAH	50
программа для записи клиентов в салоне красоты бесплатно	UAH	50
журнал записи клиентов салона красоты скачать бесплатно	UAH	50
приложение для онлайн записи клиентов	UAH	50
бесплатное приложение для записи клиентов на айфон	UAH	50
приложение запись клиентов	UAH	50
онлайн журнал для записи клиентов	UAH	50
запись клиентов бесплатно	UAH	50
календарь для записи клиентов айфон	UAH	50
программа для записи клиентов айфон	UAH	50
бесплатные сервисы онлайн записи	UAH	50
запись клиентов приложение бесплатно	UAH	50

программа для записи клиентов по времени	UAH	50
сервис для онлайн записи клиентов	UAH	50
приложение для онлайн записи в салон красоты	UAH	50
программа для записи клиентов в инстаграм	UAH	50
программа для записи клиентов онлайн	UAH	50
приложение онлайн записи	UAH	50
журнал для записи клиентов салон красоты	UAH	50
журнал предварительной записи клиентов	UAH	50
приложение для записи клиентов для мастера	UAH	50
журнал записи клиентов приложение	UAH	0
додаток для запису клієнтів	UAH	50
журнал запису клієнтів онлайн	UAH	
календар для запису клієнтів	UAH	
застосунок для запису клієнтів	UAH	
сервіс для запису клієнтів	UAH	
запис клієнтів онлайн	UAH	
програма запису клієнтів	UAH	
онлайн сервіс для запису клієнтів	UAH	
Sum		3950

**All sum of popular costumer requests is 3950 but for avoiding duplicate and empty demand use 50% of this sum its 2000 people who search such app in the Google.*

Calculation NPV and IRR

Table C.1 – The basic conditions of the Planguin subscribes politics and formulas

Averege demand(users) 2000		
Sales scenario	%	Sales per month
Optimistic scenario (users)	0.3	600
Pesimistic scenario (users)	0.2	400
Payment (\$) per month	3	
First month	free	
Quficient of customer rejection	15%	

$$NPV = \sum_{t=0}^n \frac{CF_t}{(1 + R)^t}$$

$$IRR = r_a + \frac{NPV_a}{NPV_a - NPV_b} (r_b - r_a)$$

r_a = lower discount rate chosen

r_b = higher discount rate chosen

N_a = NPV at r_a

N_b = NPV at r_b

Table C.2 – Calculation of NPV, IRR for the first scenario(600 users per month)

Period	Formula	0	1	2	3	4	5	6	7	8	9	10	11	12	Sum
Investment		- 15300													
Sales/New User(NU)			600	600	600	600	600	600	600	600	600	600	600	600	
Active Users(AU)			600	1110	1544	1912	2225	2491	2718	2910	3074	3213	3331	3431	
CF Income (\$)	$AU\ 1*(1-0.15)*\$3 + NU\ 2*\$0$		0.00	1530.0	2830.5	3935.9	4875.5	5674.2	6353.1	6930.1	7420.6	7837.5	8191.9	8493.1	64072.4
CF Income Discount (\$)	$CF/(1+Rate\%)^{\text{period}}$		0	1336	2311	3003	3476	3781	3956	4033	4036	3984	3892	3771	37580
Outcome/Costs						-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	
CF Outcomes Discount						-2288.7	-2139.0	-1999.0	-1868.2	-1746.0	-1631.8	-1525.0	-1425.3	-1332.0	15955.1
Net CF Discount	$CF\ IN(D)-CF\ OUT(D)$		-15300	0	1336	2310.5	714.0	1337.2	1781.9	2088.1	2287.4	2404.5	2459.1	2466.6	2439.0
NVP	6324.8														
IRR	5%														

Table C.3 – Calculation of the NPV, IRR for the second scenario(400 users per month)

Period	0	1	2	3	4	5	6	7	8	9	10	11	12
Investment	- 15300												
Sales/New User(NU)		400	400	400	400	400	400	400	400	400	400	400	400
Active Users(AU)		400	740	1029	1275	1483	1661	1812	1940	2049	2142	2220	2287
CF Income (\$)		0.0	1020.0	1887.0	2624.0	3250.4	3782.8	4235.4	4620.1	4947.1	5225.0	5461.3	5662.1
CF Income Discount (\$)		0.0	890.9	1540.4	2001.8	2317.5	2520.6	2637.6	2688.9	2690.9	2656.1	2594.6	2514.0
Outcome/Costs					-3000.0	-3000.0	-3000.0	-3000.0	-3000.0	-3000.0	-3000.0	-3000.0	-3000.0
CF Outcomes Discount					-2288.7	-2139.0	-1999.0	-1868.2	-1746.0	-1631.8	-1525.0	-1425.3	-1332.0
Net CF Dicount	- 15300	0.0	890.9	1540.4	-286.9	178.5	521.6	769.3	942.9	1059.1	1131.1	1169.3	1182.0
NVP	378.98												
IRR	4%												

Period	13	14	15	16	17	18	Sum
Investment							
Sales/New User(NU)	600	600	600	600	600	600	
Active Users(AU)	2487	2714	2907	3071	3210	3329	
CF Income (\$)	5832.8	5977.8	6101.2	6206.0	6295.1	6370.8	
CF Income Discount (\$)	2420.4	2318.3	2211.3	2102.2	1992.9	1884.9	37983.3
Outcome/Costs	-3000.0	-3000.0	-3000.0	-3000.0	-3000.0	-3000.0	
CF Outcomes Discount	-1244.9	-1163.5	-1087.3	-1016.2	-949.7	-887.6	-22304.3
Net CF Dicount	9098.2	1175.5	1154.9	1124.0	1086.0	1043.1	
NVP							