

Evaluation of start-up projects

Chapter 1

Introduction to start-up projects

Lecturer: doc. Polishchuk Volodymyr, PhD.

Lecture content



The concept of start-up

**Factors for the growth
of start-up projects**

**The essence of innovative
entrepreneurship**

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start-up projects**

01

The concept of start-up



The concept of start-up

The purpose of the discipline. The aim of the course is to study the basics of the startup ecosystem, fuzzy mathematics and fuzzy models for evaluating startup projects, in order to finance them in conditions of risk and uncertainty.

The concept of start-up

The object of study of the discipline — the evaluation of startup projects to improve the quality of management decisions.

The concept of start-up

The concept of a **start-up** is closely related to the modern innovation economy and is one of the forms of entrepreneurial activity.

A "**start-up**" is a new company (perhaps not yet officially registered but in the process of being registered) whose business based on innovative technologies that have not entered the market or have just started to enter it and need to attract external resources.

The concept of start-up

A **start-up** is a new financial project, the goal of which is to quickly recoup the investment and make a profit.

The term "**start-up**" is especially often used in relation to companies working in the field of information technology, however, today this concept is more general and extends to other areas of activity.

The concept of start-up

The innovations on which start-ups build their business can be both global (i.e. be innovated worldwide) and local (i.e. be innovated in a particular country, market or industry, but not be innovative in others).

The concept of start-up

The main difference of the start-up is that due to the peculiarities of the market, the company expects rapid growth. Because of this, not every newly created company can be interpreted as a start-up.

It doesn't matter the field of activity, technology, method, or source of investment, the end product – growth is the basis and the main distinguishing feature, and everything related to the concept of "start-up" is somehow related to growth in the first

The concept of start-up

The secret of a start-up's success is simple to formulate, but extremely difficult to implement: when starting a start-up, think of something that did not exist before, because entering the global market, the key to success is the realization of an idea that no one thought before.

The concept of start-up

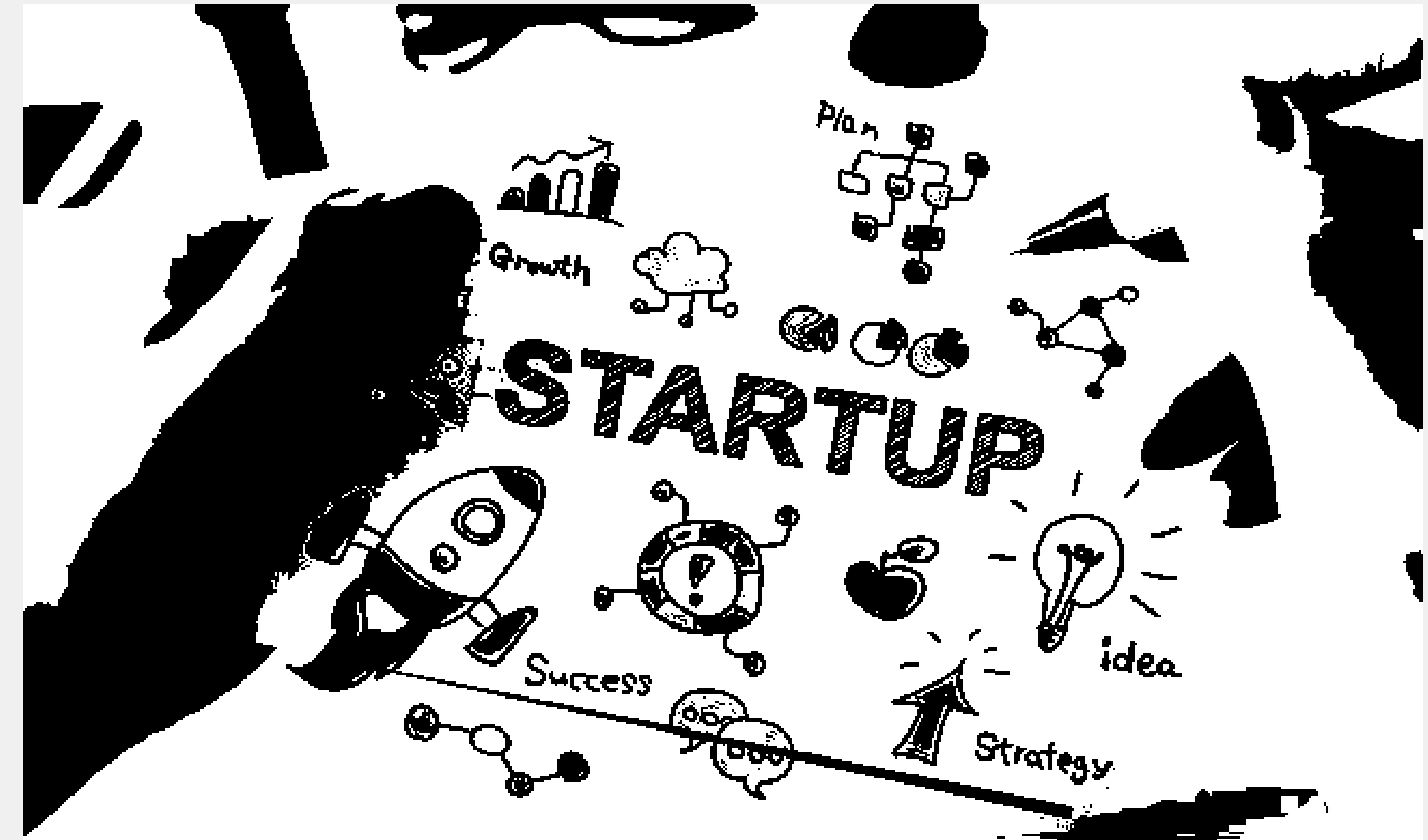
It doesn't matter the field of activity, technology, method, or source of investment, the end product – growth is the basis and the main distinguishing feature, and everything related to the concept of "start-up" is somehow related to growth in the first place.

The concept of start-up

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02

Factors for the growth of start-up projects



Factors for the growth of start-up projects

For rapid growth, a start-up must produce a product that is sure to be in demand in the global market.

Rapid growth is mainly due to two factors:

- a) the production of what a large quantity wants
- b) the ability to serve all customers, regardless of distance, time, and other physical limitations.

Factors for the growth of start-up projects

The first condition means that the idea underlying the start-up must include mass sales. Of course, the degree of mass may vary, however, the format of a start-up is generally unsuitable for creating and promoting a highly specialized idea or product. Moreover, as will be shown later, the choice of both the source of financing and its form significantly depends on the mass market, on which the start-up relies.

Factors for the growth of start-up projects

The second condition stipulates that the product must be universal and include comprehensive physical logistics, the possibility of licensing on the spot or distribution to virtual markets and shops (via the Internet).

Both conditions must be met simultaneously.

03

The essence of innovative entrepreneurship



The essence of innovative entrepreneurship

Innovative activity (ID) — activities aimed at using and commercializing the results of research and development to expand and restore the range and improve the quality of products, improve the technology of their manufacture with subsequent implementation and effective implementation in domestic and foreign markets. Innovative activity associated with capital investment in innovation is called innovation and investment.

The essence of innovative entrepreneurship

The objects of innovation are:

1. innovative programs and projects;
2. new knowledge and intellectual products;
3. production equipment and processes;
4. infrastructure of production and entrepreneurship;

The essence of innovative entrepreneurship

The objects of innovation are:

5. organizational and technical solutions of production administrative, commercial or other nature, which significantly improve the structure and quality of production and (or) social sphere;
6. raw materials, means of their extraction and processing;

The essence of innovative entrepreneurship

The objects of innovation are:

7. marketable products;

8. mechanisms for the formation of the consumer market and sales of marketable products.

The essence of innovative entrepreneurship

The subjects of innovation can be individuals and (or) legal entities, associations of these persons who carry out innovation activities and (or) attract property and intellectual values, invest their own or borrowed funds in the implementation of innovation projects.

The essence of innovative entrepreneurship

Varieties of the main types of innovative activity:

1. **preparation and organization of production,** covering the acquisition of production equipment and tools, changes in them, as well as in the procedures and methods necessary to create a new technological process;

The essence of innovative entrepreneurship

Varieties of the main types of innovative activity:

2. **pre-production developments**, including product modifications and technological process, retraining of personnel for the application of new technologies and equipment;

The essence of innovative entrepreneurship

Varieties of the main types of innovative activity:

3. **marketing of new products**, which involves preliminary market research, product adaptation to different markets, advertising campaign;

The essence of innovative entrepreneurship

Varieties of the main types of innovative activity:

4. **acquisition of intangible technology** by foreign companies in the form of patents, licenses, trademarks, disclosure of know-how, designs, models, and services of technological content;

The essence of innovative entrepreneurship

Varieties of the main types of innovative activity:

5. acquisition of the materialized technology — machines and equipment, according to their technological content, related to the introduction of product or process innovations at innovative enterprises;

The essence of innovative entrepreneurship

Varieties of the main types of innovative activity:

6. **production design**, which includes the preparation of plans and drawings to determine production procedures, technical specifications.

The essence of innovative entrepreneurship

Factors contributing to the development of innovative entrepreneurship:

1. Economic, technological (Availability of a reserve of financial, logistical means, advanced technologies, the necessary economic and scientific and technical infrastructure, state programs for financing innovation; material incentives for innovation).
2. Political, legal (Legislative measures that encourage innovation, state support for innovation).

The essence of innovative entrepreneurship

Factors contributing to the development of innovative entrepreneurship:

3. Organizational and managerial (Flexibility of organizational structures, democratic management style, the predominance of horizontal information flows; self-planning, making adjustments; decentralization, autonomy, formation of target, problem groups, reengineering).

4. Sociopsychological and cultural (Moral encouragement, public recognition; providing opportunities for self-realization, liberation of creative work. Normal psychological climate in the workforce).

The essence of innovative entrepreneurship

Accordingly, in the composition of entrepreneurship as a process, there are four most important stages:

- search for new ideas and their evaluation;
- drawing up a detailed business plan;
- search for necessary resources;
- management of the created enterprise.

04

Problems of evaluation of start-up projects



Problems of evaluation of start-up projects

The issue of start-up financing is a strategic subject to permanent discussions in both professional and scientific circles.

There are some funding support models at present, the pressures for innovative development and the exploitation of the country's innovation potential that create new forms, but a deeper analysis of funding processes with complementary risk or safety assessments are absent so far. The main problem is their considerable methodological difficulty and dependence on expert evaluations.

Problems of evaluation of start-up projects

For this reason, mostly standard evaluation processes use the economic indicators that do not capture many non-financial, so-called soft, qualitative aspects of the riskiness of financing processes, and their contribution to decision-making mechanisms are thus very limited.

Problems of evaluation of start-up projects

New financial schemes will also require the availability of evaluation processes where the financial process efficiency and risk assessment at all stages will be compared, which, in turn, may encourage the emergence and development of new hybrid forms of funding and new support programs.

05

Fuzzy math for evaluating start- up projects



Fuzzy math for evaluating start-up projects

Start-ups have different stages of commercial development. The first stage is an output product on the market.

After the successful completion of the first stage, the second stage comes—conquering the market as a competitive player in the industry.

Fuzzy math for evaluating start-up projects

There is a large number of developed models to estimate the amount of funding in the second stage since this stage is intended to finance an investment project that is on the market, and therefore quantitative estimates are used for the evaluation.

Fuzzy math for evaluating start-up projects

Little attention is paid to the assessment of start-ups at the stage of production of products for the market. This raises the problem of the evaluation concept, since data on the unrealized project can only be expert-based, and therefore fuzzy.

Fuzzy math for evaluating start-up projects

The construction of mathematical models, based on information about start-up projects and their developers, is subjective and inaccurate. It uses expertly generated information that reflects the substantive features of the researched object and is formulated in a natural language.

Fuzzy math for evaluating start-up projects

In this case, the description of the object is a vague, qualitative reflection of decision-making knowledge. Therefore, it is advisable to use the fuzzy set theory to reflect knowledge of the object of study. The fuzzy model is a mathematical model based on the theory of fuzzy logic and fuzzy sets.

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**Thank
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