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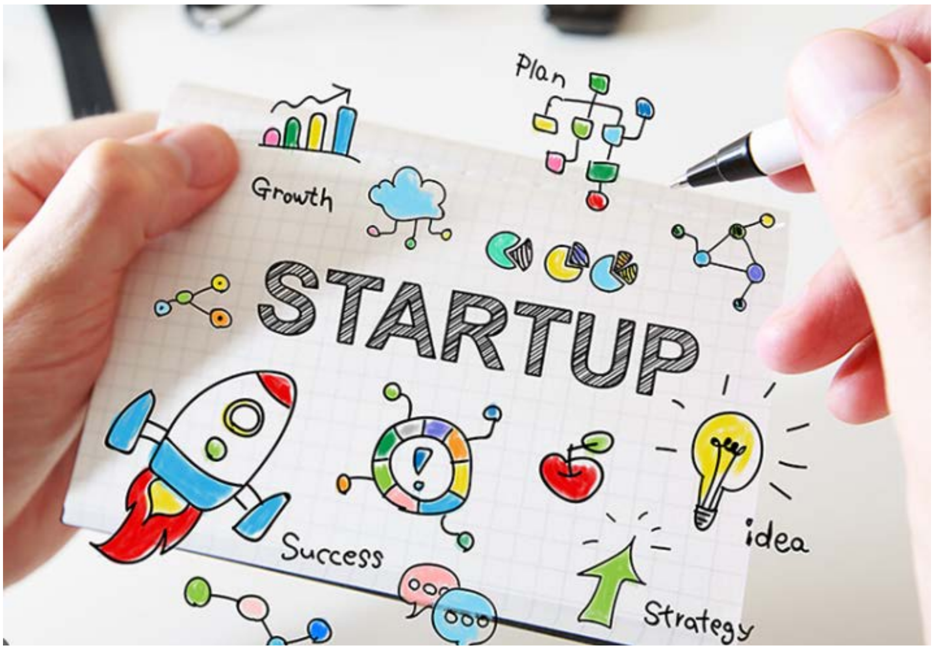
STARTUP DESIGN



Lecture notes in English

for students majoring in:
6-05-0311-02 «Economics and Management»
6-05-0412-04 «Marketing»

Vitebsk
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The lecture notes are tailored to facilitate an advanced exploration of the "Startup Design" curriculum for students. They serve as a valuable resource for those pursuing majors in Economics and Management (6-05-0311-02) and Marketing (6-05-0412-04), particularly in examining entrepreneurial ventures, business plan development, and strategies for promoting innovation.

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INTRODUCTION

The development of an innovative economy is largely determined by the development of knowledge-intensive high-tech industries (High Technology), which are the driver of economic development in modern conditions and are characterized by high growth potential, investment attractive-ness, and the orientation of products towards export, ensuring a high share of exported products and reducing dependence on energy resource exports.

Increasing the innovative activity of business is inextricably linked with the emergence of new innovative companies (start-ups). Start-up projects success-fully implemented on the market are the basis for the development of High Technology and one of the most effective elements for accelerating innovation processes in the economy.

Lecture notes "Start-up Design" has a pronounced practical focus based on modern ideas about creating new projects and, along with the study of theoretical material using traditional methods, involves the use of the end-to-end educational design method throughout the entire period of studying the academic discipline.

The purpose of Lecture notes is to train highly qualified specialists in the field of startup project development. The educational value of the Lecture notes “Startup Design” is to form a scientific worldview in students; develop research skills, analytical abilities, creativity necessary for solving scientific and practical problems; develop cognitive abilities and activity: creative initiative, independence, responsibility and organization; form the ability for self-development, self-improvement and self-realization.

The study of this Lecture notes contributes to the creation of conditions for the formation of an intellectually developed personality of the student, which is characterized by the desire for professional improvement, active participation in the economic and socio-cultural life of the country, civic responsibility and patriotism.

The purpose of the Lecture notes is to form a holistic understanding of the organization and management of the process of implementing a startup project in accordance with the priorities of the development of the economy, the acquisition of the necessary practical skills in organizing the management of specific projects, allowing to speed up the process of creating a business and avoid frequently made mistakes.

These lecture notes have been prepared taking into account modern professional requirements for economic education. According to these requirements, students should understand: the essence of innovative entrepreneurship, its role, and purpose in national development; the scientific foundations and principles of startup organization; startup design tools and their effective application; risks associated with implementing a business idea and ways to minimize them; and methods for managing cash expenditures and revenues during startup project implementation. These lecture notes are intended for undergraduate and graduate students majoring in economics, as well as for professionals engaged in entrepreneurial and commercial activities.

TOPIC 1. INNOVATIVE ENTREPRENEURSHIP

1. The essence and evolution of the concepts of “entrepreneur” and “entrepreneurship”.

2. Features of innovative entrepreneurship.

1 The essence and evolution of the concepts of “entrepreneur” and “entrepreneurship”.

The history of entrepreneurship begins in the Middle Ages. Already at that time, merchants, traders, artisans, and missionaries were aspiring entrepreneurs. With the emergence of capitalism, the desire for wealth led to the desire for unlimited profits.

The actions of entrepreneurs took on a professional and civilized nature. Often, being the owners of the means of production, entrepreneurs themselves worked in their factories or factories.

From the middle of the 16th century. share capital appears, joint stock companies are organized. The first joint stock companies arose in the field of international trade. The very first was founded by an English trading company to trade with Russia (1554). Later, the English East India Trading Company (1600), the Dutch East India Company (1602), and the Hudson's Bay Company (1670) were created. Subsequently, the joint-stock form of management penetrated into other sectors of the economy.

At the end of the 17th century. The first joint-stock banks arose: on a joint-stock basis, the Bank of England and the Bank of Scotland. At the end of the 18th – beginning of the 19th centuries. The joint-stock form of banking organization has been widely developed in many countries. During this period, the property of previously existing large family firms began to disintegrate into hundreds and thousands of shares of investors - shareholders. The gap between small and large businesses grew ever wider.

The idea of maximizing profit is increasingly being heard. A new profession is emerging: manager – leader, organizer of large-scale production. Entrepreneurial functions, previously concentrated in one person, are divided into specialized areas.

Financiers, economists, accountants, lawyers, designers, and technologists appear. Above all of them rises a manager, freed from many functions and focused on management and organization of production.

In order to understand the content of innovative entrepreneurship, let us first trace the evolution of the concepts of “entrepreneur” and “entrepreneurship”. These concepts were first used by the English economist Richard Cantillon (1680–1734). In his opinion, an entrepreneur is a person operating under risk conditions.

R. Cantillon considered the source of wealth to be land and labor, which determine the actual value of economic goods. Later, the famous French economist Jean Baptiste Say (1767–1832) formulated the definition of entrepreneurial activity as a combination, a combination of three classical factors of production – land, capital, labor.

The main thesis of J.-B. Say is to recognize the active role of entrepreneurs in creating a product. The income of an entrepreneur, according to the scientist, serves as a reward for his work, the ability to organize production and sales of products, and ensure a “spirit of order.” “An entrepreneur,” he believes, “is a person who undertakes to produce some product at his own expense and risk and for his own benefit.”

The founder of the theory of innovation processes in their modern understanding is the Austrian economist Joseph Schumpeter. Based on the theory of “long waves,” he substantiated the possibility of overcoming the economic crisis through technological changes in the economy. In 1912, J. Schumpeter’s book “The Theory of Economic Development” appeared. It provided a new understanding of entrepreneurship as an activity aimed at introducing innovations.

Thus, according to Schumpeter, the entrepreneur is the most important link between invention and practice.

Schumpeter identified five types of innovation:

- introduction of a new or unknown product to consumers;
- introduction of a new production method;
- opening a new market where the industry has not been represented before;
- discovery of a new source of raw materials;
- introduction of a new organizational structure in this industry.

The modern definition of an entrepreneur is a person who has his own business in order to make a profit in the form of providing services, trade or production.

Accordingly, entrepreneurship can be defined as a creative activity aimed at finding new areas of capital investment, creating new and improving existing products and industries, developing one’s own advantages, and effectively using various opportunities to make a profit. At the same time, entrepreneurship is characterized by the mandatory involvement of an innovative moment - be it the production of a new product for the market, a change in activity profile, or the founding of a new enterprise or industry.

Of particular importance for understanding the essence of entrepreneurship is the point of view of American economists K. R. McConnell and S. L. Brew, who:

4) the entrepreneur takes on the risk arising from four interrelated functions of the entrepreneur:

1) the entrepreneur takes the initiative to combine resources – land, capital and labor – into a single process of production of goods and services;

2) the entrepreneur takes upon himself the development and adoption of basic decisions in the process of doing business, i.e. those operations that determine the course of the enterprise’s activities and the direction of business development;

3) an entrepreneur is an innovator, a person seeking to produce new products (services), develop new production technologies or introduce new forms of organization and business development;

4) the entrepreneur takes on risks when carrying out business activities, since profit is not guaranteed for the entrepreneur; the reward for the time, effort and abilities spent can be both profits and losses. At the same time, the entrepreneur risks not only his time, labor and business reputation, but also the invested funds.

2. Features of innovative entrepreneurship.

Not every entrepreneurship is recognized as innovative, but only those that make it possible to derive entrepreneurial income as a result of the creation, use or diffusion of an innovative product. In accordance with this, two models of entrepreneurship are distinguished.

The first model is classical entrepreneurship (traditional, reproductive, routine), aimed at organizing activities with the expectation of maximum return on the resources available to the entrepreneurial organization. It is within the framework of the classical model of entrepreneurship that the concept of managing production growth is formed, the implementation of which requires time to carry out a number of activities due to factors external to the entrepreneurial company - subsidies, support from the state. In addition, the internal reserves of the company are set in motion to improve the efficiency of its activities.

The second model is innovative entrepreneurship, which involves searching for new ways to develop an enterprise, which allows us to talk about the concept of growth management, or innovation. Innovative entrepreneurship is entirely based on innovation, so the result of such activity is either a new product, or a product with fundamentally new characteristics or properties, or new technologies (figure 1).

Innovative entrepreneurship is a special innovative process of creating something new, a business process based on a constant search for new opportunities and a focus on innovation (figure 1).

It is associated with the entrepreneur’s willingness to take on all the risk of implementing a new project or improving an existing one, as well as the financial, moral and social responsibility that arises. In general terms, innovative entrepreneurship can be defined as an economic process that leads to the creation of goods (products, services) and technologies that are better in their properties through the practical use of innovations (innovations).

Innovation is the final result of introducing an innovation in order to change an object, manage it and obtain economic, environmental, scientific, technical or other type of effect; innovation, a complex process of creating, disseminating and using an innovation (a new practical means) to satisfy human needs that change under the influence of the development of society.

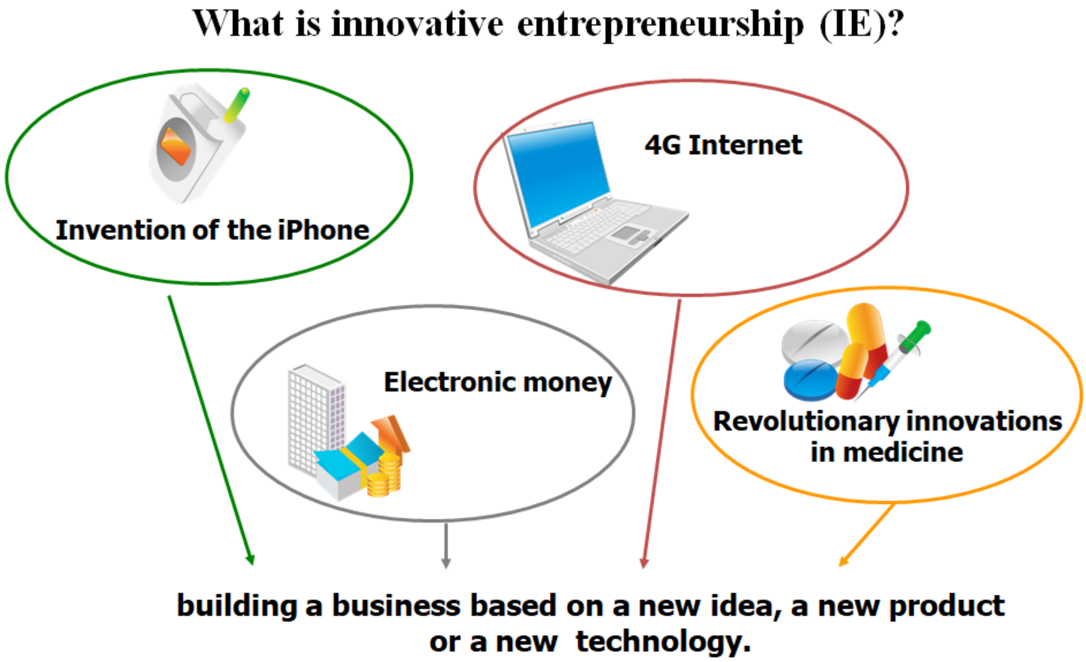

Figure 1.1 – Innovative entrepreneurship

As international experience shows, engaging in innovative business requires competence in two areas:

1) Directly organizing and carrying out business activities;

2) a specific area of knowledge, equipment and technology, using the results of which an innovative business is organized.

At the core of his activity, an innovator must combine the qualities of an entrepreneur and a scientist-developer (inventor), which is rare. Currently, it is generally accepted that the development of the innovative entrepreneurship sector is one of the key conditions for increasing the competitiveness of the national economy in the world market. This is due to the following reasons:

– firstly, innovative entrepreneurship is much more receptive to innovation, which allows small innovative enterprises to successfully compete with large companies;

– secondly, innovative entrepreneurship has a high potential for adaptation to changes in the market situation both in the short and medium term, which allows it to respond very flexibly to market demand, create new and modify existing human needs.

In countries with developed market economies, the innovative entrepreneurship sector is a serious player in the global market of scientific, technical and innovative products, with significant export opportunities. In some sources of literature, innovative entrepreneurship is characterized as the highest stage of entrepreneurial activity.

TOPIC 2. THE ESSENCE OF STARTUPS AND THEIR KEY FEATURES

1 History of startups.

2 The concept of “Startup”, its key characteristics and operating features.

3 Differences between a startup and traditional entrepreneurship.

4 Features of the implementation of startup projects in the field of information technology and the real sector of the economy.

1 History of startups.

The term “startup” first appeared in the United States in 1939. Almost all enterprises and firms involved in developments in the field of high technology are concentrated in the Santa Clara Valley (California). Stanford University students David Packard and William Hewlett, creating their small project here, called it a startup. Over time, this startup grew into such a huge and successful company as Hewlett-Packard.

In the late 1970s and early 1980s, the situation began to change, and a generation of entrepreneurs with new values and ideas started to emerge. Instead of adapting to the existing corporate structure, they challenged it, embracing risks and changes, and striving to create something entirely new. This marked the beginning of the startup culture.

The idea of starting a business from scratch appealed to many. It provided opportunities for growth to those who were unable to enter existing corporate structures. This was especially evident in Silicon Valley, where venture capitalists began to invest heavily in new ventures. As a result, more people became aware of this new way of doing business, and the number of startups began to grow rapidly.

Technology also played a crucial role in the rise of startup culture. Computers and software made it easier for entrepreneurs to create innovative products and services. This enabled businesses to be launched quickly and inexpensively.

The advent of the Internet created an opportunity for startups to reach potential customers worldwide. It became easier for young entrepreneurs to succeed without relying on traditional marketing or sales channels. Startups began to achieve global success faster than ever before.

Today, startups have become a global phenomenon, with millions launching worldwide every year. They have become an important part of the economy, creating jobs and generating wealth for people. Perhaps, with startups, will see even more innovations and changes in the future.

The most successful, universally known startups are the following:

– social networks: Facebook, VKontakte, Odnoklassniki.ru.

If we are based on the classic concept of a startup (where the main characteristic features are the presence of an original idea and a free, unoccupied niche), then only the first one startup (Facebook).

The most successful and world-famous startups are the following organizations (table 2.1).

Table 2.1 – The most successful and world-famous startups

The largest online encyclopedia is **Wikipedia.** The number of articles on this resource is impossible to count, since their number is growing daily.	
YouTube (founders Chad Hurley, Steve Chen, Javed Karim).	
Twitter is a platform created by Jack Dorsey for exchanging short messages. Each of the above startups is a website on the Internet.	
Microsoft (founders Bill Gates and Paul Allen)	
Apple Computer Inc. (founders Steve Jobs and Steve Wozniak)	
Google (founders Larry Page and Sergey Brin).	

The concept of "startup" originally arose in the field of information technology and was associated with the emergence of new organizations, each of which sought to offer the target audience something that competitors in the same field had forgotten or were not aware of.

2 The concept of "Startup", its key characteristics and operating features.

A startup is a young company established by one or more entrepreneurs to create unique and irreplaceable products or services. It aims at bringing innovation and building ideas quickly.

The main goal of a startup is to make money. At the initial stage of building your company, you need to decide what kind of business you want to build. *The second main goal* of a startup is to recruit a professional team. Which will continue to earn you money. *The initial task of a startup* is the idea of creating a product.

Main features of startup projects:

- the company must be created recently (no more than a year) or be in the process of formation;
- limitation of resources, including temporary ones, due to the youth of the company;
- presence of innovative technology, novelty;
- conducting business activities by an individual entrepreneur or micro-enterprise (2-10 people);
- lack of a clear division of labor, clear organizational structures.

There are 6 types of startups:

- Scalable startups;
- Small business startups;
- Lifestyle startups;
- Buyable startups;
- Big business startups;
- Social startups.

Scalable startups. Companies in a tech niche often belong to this group. Since technology companies often have great potential, they can easily access the global market. Tech businesses can receive financial support from investors and grow into international companies.

Examples of such startups include Google, Uber, Facebook, and Twitter. These startups hire the best workers and search for investors to boost the development of their ideas and scale.

Small business startups. These businesses are created by regular people and are self-funded. They grow at their own pace and usually have a good site but don't have an app. Grocery stores, hairdressers, bakers, and travel agents are the perfect examples.

Lifestyle startups. People who have hobbies and are eager to work on their passion can create a lifestyle startup. They can make a living by doing what they love. We can see a lot of examples of lifestyle startups. Let's take dancers, for instance. They actively open online dance schools to teach children and adults to dance and earn money this way.

Buyable startups. In the technology and software industry, some people design a startup from scratch to sell it to a bigger company later. Giants like Amazon and Uber buy small startups to develop them over time and receive benefits.

Big business startups. Large companies have a finite lifespan since customers' preferences, technologies, and competitors change over time. That's why businesses should be ready to adapt to new conditions. As a result, they design innovative products that can satisfy the needs of modern customers.

Social startups. These startups exist despite the general belief that the main aim of all startups is to earn money. There are still companies designed to do good for other people, and they are called social startups.

Examples include charities and non-profit organizations that exist thanks to donations. For instance, Code.org, a non-profit organization, encourages school students in the US to learn computer science.

In the process of establishing a startup, it is customary to distinguish several stages:

Pre-startup - the first stage is a period of time that lasts from the moment the idea is conceived until the moment of presentation on the market.

Pre-seed is the stage of a startup when an idea has already been formed, there is a clear awareness of customer needs, but at the same time there is no clear concept for the implementation of this idea.

Seed - at this stage, the market is monitored and a business plan is drawn up. Investments are being sought to launch the project.

Startup development stage - the project has taken a stable position in the market and is ready to develop its niche based on a business plan.

Stage of expansion of the startup's activities. By this time, the project begins to develop through the development of adjacent markets.

Exit stage - exit can be accomplished by selling the firm to larger investors. In addition, exit can occur by placing shares on the stock exchange.

3 Differences between a startup and traditional entrepreneurship.

Traditional entrepreneurship is all about repeating existing fundamentals, even with a unique selling proposition. This is another coffee shop, store, pipe manufacturer or another window installation service. *The difference between a startup is* that it is a fundamentally new, innovative service or product that did not exist before.

A startup is a new business that has just been created or is still in the process of creation.

After some time, perhaps, if the startup does not close as unclaimed or uncompetitive, it will go through the stages of development and formation, receive recognition and investment support and transform into a classic company with a *classic organizational structure*.

The sources of investment also differ. The founders of a traditional entrepreneurial project usually develop a business plan and submit it to banking institutions. As a rule, already existing ideas are not interesting to venture funds and business angels. Promising startups can bring significant income with not the largest investments.

4 Features of the implementation of startup projects in the field of information technology and the real sector of the economy.

In the modern economy, startups play a key role in stimulating innovation, creating new markets and increasing high competitiveness. Every year there is a significant increase in knowledge, technology and scientific discoveries compared to previous years, as scientific and technological progress continues to accelerate. Most of these discoveries can potentially be very profitable, as they improve people's lives. Nevertheless, the creation and implementation of start-up initiatives is a complex process with many moving parts, which requires a deep understanding of industry trends, advanced technologies and strategic planning.

Technology fosters innovation, creates jobs, and boost long-term economic prosperity. By improving communication and creating opportunities for data-sharing and collaboration, information technology represents an infrastructure issue as important as bridges, highways, dams, and buildings.

Information technology (IT) startups typically feature high-skill labor, R&D investment, and global market focus, while real sector startups often have more low-to-semi-skilled workers, local markets, and limited R&D.

IT ventures drive long-term economic growth through innovation and efficiency, whereas real sector startups, such as traditional manufacturing or services, may have a more immediate local economic impact but are often less scalable and face higher initial mortality rates.

The ICT revolution has spread rapidly across countries, industries and socioeconomic activities over the past few decades. Deep transformational effects. As a result, ICTs are playing an increasingly important role in economic growth and structural change. New technologies and applications are being developed to foster better communication with citizens, to facilitate innovation in organizations and create competitive advantage. We are witnessing a shift from a business culture to a social culture based on networks, where innovations created for users have a significant impact. New technologies and their application in productive activities are causing changes in economic structures and contributing to increased labor force productivity. The use of ICTs leads to a diversification of innovation through various channels. In general, ICTs have an important contribution to economic growth leading to improved well-being and living standards.

The main difference in implementing IT startups versus real-sector startups lies in their risk profiles, scalability, and primary focus. IT startups often feature lower initial capital requirements, high scalability, and a focus on innovation and rapid growth through software and digital products. Real-sector startups, conversely, frequently require more physical capital, have slower scaling potential, and often focus on disrupting traditional industries with new physical products, services, or processes.

Table 2.2 – The most successful and world-famous startups

Feature	Information Technology (IT) Startups	Real Sector Startups
Labor	Employs highly-skilled workers.	Tends to employ more semi- and low-skilled workers.
Salaries	Often pays more than the national median wage.	Often pays less than the national median wage.
Innovation & R&D	Heavily invests in Research & Development (R&D).	Little to no R&D investment.
Market Scope	Focuses on international markets and trade.	Predominantly sells in local markets.
Job Creation	Creates significant indirect jobs in other industries.	Creates little to no net new jobs in the first few years.
Scalability & Growth	Designed for rapid growth and scalability, aiming to disrupt markets.	Limited job addition and lower scalability.
Risk & Mortality	High potential for significant revenue growth but can also have high mortality rates due to rapid technological obsolescence.	Faces higher rates of bankruptcy, especially in the first few years.
Economic Impact	Drives long-term economic prosperity and efficiency through innovation and data management.	Provides immediate local economic benefits but may not have the same transformative, long-term impact on the overall economy.

TOPIC 3. STARTUP LIFE CYCLE

1 Essence, characteristics and life cycle models of startups.
2 Product-oriented startup life cycle model.
3 Customer-centric startup life cycle model.
4 Dividing the life cycle of a startup into stages depending on various criteria.

1. Essence, characteristics and life cycle models of startups.

Startups are innovative, scalable, and growth-oriented ventures focused on developing a new product, service, or business model, often with a technological focus and under-capitalized. Their life cycle can be defined in various models, but commonly includes stages like seed/development, launch/early-stage, growth/scale, maturity, and renewal or exit. Key characteristics include scalability, innovation, and a focus on rapid market penetration and expansion, rather than just stability.

According to Statista, there were 1095 unicorns in the world. The chances for a startup to become a unicorn are **less than 1%. Around 70% of tech startups fail** - they manage to live about 20 months on average after their first financing.

There is no universal approach to building a startup life cycle model. Various models presented in scientific articles, on Internet resources, etc., define the stages of startup development based on the goals that the startup company strives for: development of a product, project, team, consumers (market), attracting funding. Let's consider some of them.

So a typical startup lifecycle consists of **3 major stages:**

1. Garage;
2. Growth Machine;
3. Unicorn.

Each of these business models have different advantages that you can make use of when developing your own startup. For instance, the marketplace business model ensures that you have very little overhead and that you won't need to carry any inventory. These businesses are great because they can be run from wherever you want.

You could choose to purchase an office space or could decide to run the business virtually. The best way to identify which of these business models is right for you is to make sure that the business owner is informed about each type of business model and what the company will need when implementing one of these models.

Once you've found the business model that's right for your startup, you should be able to create a roadmap of growth for your company. With a business model in hand, you can get started on building your business. Creating a startup will usually involve identifying sources of funding, creating a business plan, and making sure that your product or service is market viable. At the beginning, you'll likely find that your budget is low, which could put a damper on growing your business. Likely the best way to navigate this obstacle is by joining an incubator for low-cost access to office space, lab space, and high-end equipment.

As a startup business seeking long-term success, it's not enough for you to have a great idea for a product or service. No matter how great an idea is, startups may have difficulty finding success if they have yet to determine how the business will sustain itself in the long run.

As such, you should work on developing a business model that will help you ascertain how your business is going to be run. To create an effective business model, you'll want to identify your customer base, any sources of revenue, financing details, and the products or services that you're going to provide.

Different business models are used for different types of startups. For instance, if your startup is going to be selling a service online, you may want to consider the freemium model, which allows you to provide free and premium tiers for your service. If you plan on selling a subscription for the service that you provide, the subscription model is likely your best option. Once you've made a decision on how you want your company to be financed, what kinds of products you want to sell, and what your customer base is going to be, you'll be able to select the business model that meets your needs.

2. Product-oriented startup life cycle model.

The product life cycle is the length of time that a product is available to customers. It starts when a product (a good or a service) is introduced into the market and ends when it's removed from the shelves.

This concept is used by management and marketing professionals to make marketing and sales decisions, such as whether or not to increase advertising, reduce prices, expand to new markets, or redesign packaging. The process of strategizing ways to continuously support and maintain a product is called product life cycle management.

A product begins with an idea. Within the confines of modern business, that idea isn't likely to go further until it undergoes research and development (R&D). If the business finds that it is feasible and potentially profitable, the product will be produced, marketed, and rolled out.

The life cycle of a product is broken into four stages:

1. Introduction;
2. Growth;
3. Maturity;
4. Decline.

Introduction Stage.

The introduction phase is the first time customers are introduced to the new product. This stage generally requires that the business make a substantial investment in advertising. At this point, the marketing is focused on making consumers aware of the product and its benefits, especially if it is broadly unknown what the item will do.

During the introduction stage, there may be little or no competition for a product, as competitors may just be getting a first look at the new offering. Even if the business is offering a new product or service in response to another business's sales, the marketing will still be focused on introducing the new product rather than on differentiating it from competitors' products.

Companies often experience negative financial results at this stage. Sales tend to be lower, promotional pricing may be low to drive customer engagement, marketing spending is high, and the sales strategy is still being evaluated.

Growth Stage.

If the product is successful, it then moves to the growth stage. This is characterized by:

- Growing demand;
- Increase in production;
- Expanded availability;
- Important.

The amount of time spent in the introduction phase before a company's product experiences strong growth will vary between industries and products.

During the growth phase, the product becomes more popular and recognizable. A company may still choose to invest heavily in advertising if the product faces heavy competition. However, marketing campaigns will likely be geared towards differentiating its product from others as opposed to introducing the goods to the market. A company may also refine its product by improving functionality based on customer feedback.

Financially, the growth period of the product life cycle results in increased sales and higher revenue. As peer businesses begin to offer rival products, competition increases, potentially forcing the company to decrease prices and experience lower margins.

Maturity Stage

The maturity stage of the product life cycle is the most profitable stage, the time when the costs of producing and marketing decline. With the market saturated with the product, competition is now higher than at other stages, and profit margins start to shrink. Some analysts refer to the maturity stage as when sales volume is "maxed out."

Depending on the good, a company may begin deciding how to innovate its product or introduce new ways to capture a larger market presence. This includes getting more feedback from customers and researching their demographics and their needs. During the maturity stage, competition is at the highest level. Rival companies have had enough time to introduce competing and improved products, and competition for customers is usually highest. Sales levels stabilize, and a company strives to have its product exist in this maturity stage for as long as possible.

Decline Stage.

As the product takes on increased competition and other companies emulate its success, the product may lose market share. This is when the decline state begins.

Product sales begin to drop due to market saturation and alternative products. If customers have already decided whether they are loyal to the product or prefer those of competitors, the company may choose to not invest in additional marketing efforts. Should a product be entirely retired, the company will stop generating support for it and will entirely phase out marketing and production endeavors.

Alternatively, the company may decide to revamp the product or introduce a next-generation, completely overhauled model. If the upgrade is substantial enough, the company may choose to re-enter the product life cycle by introducing the new version to the market.

Product Life Cycle vs. BCG Matrix

A similar analytical tool to help businesses determine the market positioning of a product is the Boston Consulting Group (BCG) Matrix. This four-square table defines products based on their market growth and market share:

Stars: Products with high market growth and high market share

Cash cows: Products with low market growth and high market share

Question marks or problem children: Products with high market growth and low market share

Dogs: Products with low market growth and low market share

Both systems analyze a product's market growth and saturation. However, the BCG Matrix does not traditionally communicate the direction in which a product will move. For example, a product that has entered the maturity stage of the product life cycle will likely experience decline next; the BCG Matrix does not communicate this product flow in its visual depiction.

3. Customer-centric startup life cycle model.

Steve Blank outlines the **search, build, and growth** phases of companies.

1. Search - Finding a repeatable business model

In the search phase, ***the goal of a startup is to search for a repeatable and scalable business model.*** It requires flexibility as it takes multiple iterations and pivots to find a product market fit.

2. Build - Scaling up customers and headcount

Once a startup reaches this phase (and begins hiring more than forty people), the company must transform into one that can scale by growing their customers at a rate that allows for positive cash flow.

This phase begins with around forty employees and can last until the company has between 175–700. The company needs to have things in place such as culture, training, product management, processes and procedures.

3. Grow - Setting up processes post-liquidity

In the final phase the company has achieved liquidity. This is the result of an IPO, the company having been bought or a merger. The company continues to grow and has repeatable processes. The Key Performance Indicators (KPIs) processes and procedures from the previous phase are now commonplace.

4. Dividing the life cycle of a startup into stages depending on various

criteria.

5 phases of the startup lifecycle, **Morgan Brown.**

Morgan Brown defines the five phases of the startup life cycle:

- problem solution fit;
- MVP (Minimum Viable Product);
- product market fit;
- scale;
- maturity.

1. Problem-Solution Fit

What problem does this product or service attempt to solve? Does the solution effectively solve it? If there is a clear answer and a yes to these questions, then founders have a hypothesis to test.

This is the stage where the founder needs to do heavy market research and talk to target users, asking them questions in an attempt to find their pain points. This will provide enough information to build a viable MVP.

2. Minimum Viable Product

This is the stage where you build a viable MVP using the smallest amount of time and capital in order to prove demand and test customer behavior. Once it is released, it is all about finding initial users and seeing whether they remain with the product or abandon it.

3. Product-Market Fit

The MVP has gained traction and you are iterating from customer feedback. There may be paying customers and repeat customers.

This is often a sign that there is product market fit. At this stage, founders should measure retention rates while surveying users to see how they feel about the product.

The channels that are providing users should also be experimented with and explored.

4. Scale

This is where you double down on the channels that work. Growth experts are hired and given budgets and support. You build a growth playbook (the processes that define and grow the company) for each channel.

5. **Maturity**

As the company matures, growth slows, but it doesn't stop. Even Facebook and LinkedIn continue to expand and grow. New channels should be discovered and pockets of new possible users should be approached.

At this stage, you look to expand aboard. This is also the stage where acquisition opportunities come into play (figure 3.1).

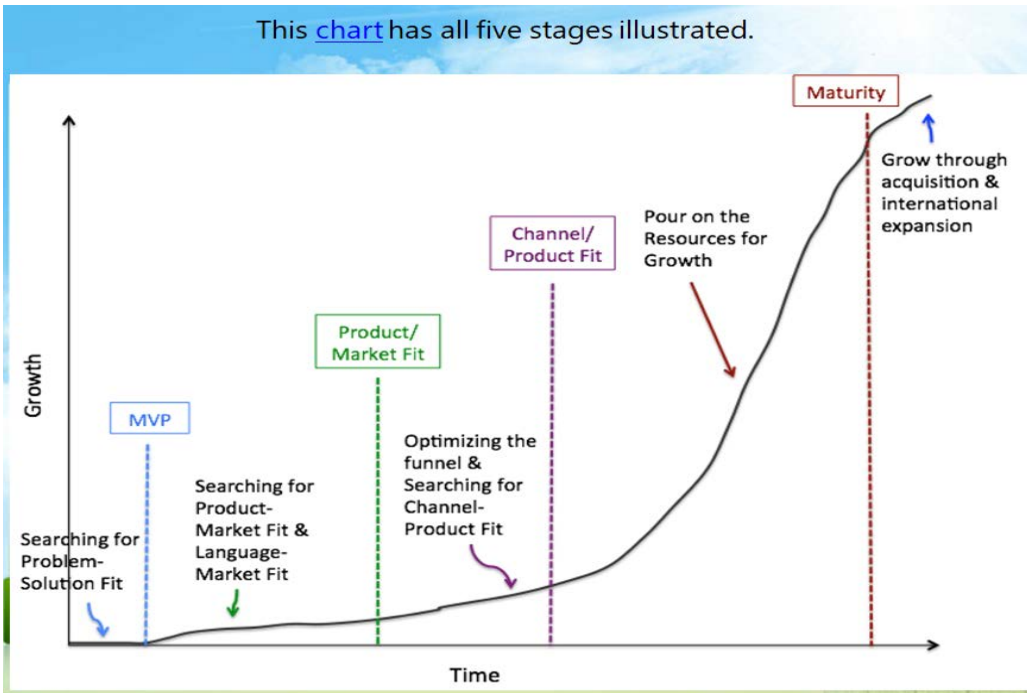

Figure 3.1 – The startup lifecycle

The startup lifecycle according to Brian Balfour.

Brian Balfour argues that a startup goes through three phases of growing:

- traction;
- transition;
- growth.

Traction.

The majority of startups are in this phase. The goal in this phase is for the company to find their product market fit. The most important metric is retention at this phase. The company needs a steady stream of users while the company experiments with a few channels to keep that flow of users coming in. The team at this stage is usually the founder with the part time support of a designer or developer.

The transition phase is where the foundation of a process, team, and tools are built so growth can increase. The goal in this phase is for the startup to identify, define, and understand the growth levers for the business. The most important metric to start tracking is growth rate on either a weekly or monthly basis.

The growth rate will be what guides the company going forward. The company needs to increase the stream of users and focus on the one key channel that works. The team at this stage should be a dedicated growth team with one leader (the VP or growth or PM) and a designer or developer.

Growth.

The growth phase is where the company kicks it up a notch. The goal is to focus on growth levers and take them to the next level. The metric during this phase is the growth rate and the payback period. The payback period usually increases as a company grows.

The channels become competitive (and saturated) and the capital restraints of the company loosen. The stream of users needs to be turned into a firehouse at this phase. This is also the phase where new channels can be opened up (as the primary channel could be saturated at this point).

The team at this stage is expanded with one growth executive leading the charge and multiple growth PMs who have their own team of a developer, designer, data, and channel specific talent.

The startup lifecycle according to Reid Hoffman.

Reid Hoffman defines blitzscaling as "what you do when you need to grow really, really quickly. It's the science and art of rapidly building out a company to serve a large and usually global market, with the goal of becoming the first mover at scale."

Focusing on scaling an organization is paramount as an organization's size and its ability to execute determine whether it can capture customers and revenue. He breaks this down by family, tribe, village, city, and nation.

After the obligatory "garage" phase, all models converge to a single common point: the **PMF**, or **Product-Market Fit.**

Then the startup gradually expands into several channels, several countries, and several products, and becomes a scale-up, or growth machine in the words of Brian Balfour. Eventually, the last stage is **a stabilization of the startup,** because of the growth slowing down (Morgan Brown) and/or because of a liquidity event (Steve Blank).

TOPIC 4. BUSINESS MODELS FOR IMPLEMENTING STARTUPS

1 The essence and basic types of business models.
2 The process of building a business model. Business model template.
3 Startup business modeling tools.

1. The essence and basic types of business models.

A business model identifies the products or services the business plans to sell, the target market, and any anticipated expenses, in order to outline how to generate a profit. Business models are important for both new and established businesses. They help companies attract investment, recruit talent, and motivate management and staff.

Businesses should regularly update their business model, or they'll fail to anticipate trends and challenges ahead. Business models also help investors to evaluate companies that interest them and employees to understand the future of a company they may aspire to join.

A business model is a high-level plan for profitably operating a business in a specific marketplace. This plan helps the company to identify the best approach for conducting business while also serving to attract investors and talent.

A primary component of the business model is the value proposition. This is a description of the goods or services that a company offers and why they are desirable to customers or clients; it should ideally be stated in a way that differentiates the product or service from its competitors.

A new enterprise's business model should also cover projected startup costs and financing sources, the target customer base for the business, marketing strategy, a review of the competition, and projections of revenues and expenses. The plan may also define opportunities in which the business can partner with other established companies. For example, the business model for an advertising business may identify benefits from an arrangement for referrals to and from a printing company.

Successful businesses have business models that allow them to fulfill client needs at a competitive price and a sustainable cost. And they are subject to change. Many businesses revise their business models periodically to reflect changing business environments and market demand.

The business model is:

– *a business model* is a method of doing business by which the organization ensures profit. The business model explains how the organization makes money;

– *a business model* is a logical schematic description of a business, designed to help assess the key factors for an organization's success;

– *a business model* is the way an organization creates value for consumers and makes a profit from it.

A business model is a schematic presentation of business processes occurring within a company.

It clearly demonstrates what products the organization sells and to whom, how profitable it is, and what prospects there are.

The model helps determine:

- necessary resources to start;
- promising areas of development;

cost reduction methods.

There is no single type of business model because no company is the same, and each has different ways of generating revenue. Thus, business models can vary considerably. An aerospace company, such as Boeing, may operate similarly to a peer, like Airbus, but won't share much in common in terms of how it generates revenue with, say, a shoe store or a bar.

How to Create a Business Model.

There is no "one size fits all" when making a business model. Different professionals may suggest taking different steps when creating a business and planning your business model. Here are some broad steps you can take to create a plan:

1. **Identify your audience**: Most business model plans will start with defining a problem you're trying to solve and identifying your audience and target market. A strong business model will reflect who you are trying to target, so you can craft your product, messaging, and approach to connecting with that audience.

2. **Define the problem**: In addition to understanding your audience, you must know what problem you are trying to solve. A hardware company sells products for home repairs. A restaurant feeds the community. Without a problem or a need that creates demand for your services or products, your business may struggle to find its footing.

3. **Understand your offerings**: With your audience and problem in mind, consider what you are able to offer. What products are you interested in selling, and how does your expertise match that product? In this stage of the business model, the product is tweaked to adapt to what the market needs and what you're able to provide.

4. **Document your needs**: With your product selected, consider the hurdles your company will face. This includes product-specific challenges as well as operational difficulties. Make sure to document each of these needs to assess whether you are ready to launch in the future.

5. **Find key partners**: Most businesses will leverage other partners in driving company success. For example, a wedding planner may forge relationships with venues, caterers, florists, and tailors to enhance their offering. If you're a manufacturer, consider who will provide your materials and how critical your relationship with that provider will be.

6. **Set monetization solutions**: A business model isn't complete until it identifies how the company will make money and turn a profit. This includes selecting the strategy or strategies laid out in the business model types section above.

7. **Test your model**: When your full plan is in place, perform test surveys or soft launches. Ask how people would feel paying your prices for your services. Offer discounts to new customers in exchange for reviews and feedback. You can always

adjust your business model, but you should always consider leveraging direct feedback from the market when doing so.

2. The process of building a business model. Business model template.

Different business models are used for different **types of startups**.

Different business models include the:

- Marketplace model;
- On-demand model;
- Disintermediation model;
- Subscription model;
- Freemium model;
- Virtual good model;
- Reseller model.

The **marketplace model** is a type of business model that allows you to act as the go-between for sellers and buyers. Likely the most popular company to use the marketplace model is **Amazon.** They only act as the online marketplace that takes care of the transactions between buyers and sellers.

The main advantages of using a marketplace model include the fact that you won't need to store any inventory and that you won't have any overhead costs. Marketplaces will usually take a small percentage of the transaction between the buyer and the seller.

The **on-demand model** is which means that you will be tasked with providing customers with a service that they can request and obtain any time they please.

***Uber** is a top example of this business model that allows customers to request a ride, after which a driver will pick them up and take them to their destination.*

This business model is ideal for startups that are looking to cater to younger demographics that require instant gratification.

Startups will usually need to leverage existing infrastructures and new forms of technology to provide customers with this kind of business model.

Likely the most notable benefit of this model is that it takes use of freelance labor, which helps keep costs down.

The **disintermediation model** is a standard business model that's used by a wide range of wholesalers, manufacturers, and businesses that offer direct sales.

The goal of this model is to get rid of the middleman, which lowers the cost of doing business for the manufacturer.

The main benefit of using this business model is that the end-user should be able to pay a much lower cost than they normally would for a product or service.

With a standard retail business model, manufacturers will ship their products to a distributor that will act as the intermediary between the manufacturer and the customer.

This business model is ideal for startups that have the necessary resources to produce and distribute goods. The low prices that are possible with this business model should attract new customers.

The **subscription model** is an increasingly popular business model that involves a company selling a service via a subscription as opposed to a one-off product.

This business model is being used by a large number of companies to obtain stable cash flows that are recurrent. The most popular subscription services are Spotify and Netflix, which provide customers with access to music, movies, and TV shows for a monthly or yearly subscription fee.

Most customers will choose to auto-renew their subscriptions, which ensures that they always have the service that you're providing to them.

Because of recurring sales, this model allows you to predict what your yearly revenues are going to be, which is fantastic when you're trying to bring in new investors.

The **freemium model** is among the more popular business models for startups since it combines **free and premium services** into one business model via a tiered approach. **The free service** that you offer to everyone would include basic features of the service. **The premium component** of this business model allows you to create a premium service that offers more features and perks than the free service.

If your startup is centered around web design and development, you could start by offering a free package that includes some basic design services. You could then create a premium package that includes extra features like free hosting, video production, and unlimited design revisions. These additional features may entice customers to purchase the premium package.

The **virtual good model** is commonly used by video game developers but can also apply to a range of other businesses.

This type of business model provides customers with the ability to purchase virtual goods, which only exist online. In a video game, these virtual goods could be extra lives.

Many companies that create smaller games for smartphones will implement a virtual good store within the game where users can purchase all kinds of online goods. Aside from game developers, creative thinking will be needed to use this business model.

The **reseller model** is a business model that's very similar to the marketplace model. When a startup operates as a reseller, they will focus on promoting and selling products that are produced or manufactured by another company or individual.

The most common reseller model is the retailer model, which involves products being held at a store or warehouse by the reseller before being passed on to the customer who buys the product.

Each of these business models have different advantages that you can make use of when developing your own startup.

Evaluating Successful Business Models.

A common mistake many companies make when they create their business models is to underestimate the costs of funding the business until it becomes profitable. Counting costs up to the introduction of a product is not enough. A company has to keep the business running until its revenues exceed its expenses.

One way analysts and investors evaluate the success of a business model is by looking at the company's gross profit. Gross profit is a company's total revenue minus the cost of goods sold (COGS). Comparing a company's gross profit to that of its main competitor or its industry sheds light on the efficiency and effectiveness of its business model. Gross profit alone can be misleading, however. Analysts also want to see cash flow or net income – that is, gross profit minus operating expenses, which is an indication of just how much real profit the business is generating.

The two primary levers of a company's business model are pricing and costs. A company can raise prices, and it can find inventory at reduced costs. Both actions increase gross profit.

Many analysts consider gross profit to be more important in evaluating a business plan. A good gross profit suggests a sound business plan. In that case, if expenses are out of control, the management team could be at fault, and the problems are correctable. As this suggests, many analysts believe companies that run on the best business models can run themselves.

3. Startup business modeling tools.

Business process modeling is a powerful technique that is used by organizations to improve efficiency, reduce costs, and provide scalability in operations. This technique is the practice of creating graphical representations or models that illustrate the steps, activities, and interactions involved in a business process.

Business process modeling helps in visually capturing the flow of work, information, and resources within a process, making it easier to identify inefficiencies, bottlenecks, and areas for improvement. The models typically use standardized notation, such as Business Process Model and Notation (BPMN), to ensure clarity and consistency in communication.

Business process modeling offers numerous advantages that facilitate organizational efficiency and improvement. Here are some key benefits:

- Improved communication. Visual representations of processes help bridge communication gaps between technical and non-technical stakeholders, ensuring everyone shares a common understanding;
- Increased efficiency. By identifying bottlenecks and redundancies, businesses can streamline operations, reducing wasted time and resources;
- Enhanced process control. With detailed insights into each step, organizations can maintain better control over processes, ensuring compliance and consistency across operations;
- Facilitated training. New employees can grasp workflows more quickly with clear process models, accelerating the onboarding process and reducing training costs;
- Risk management. Modeling helps identify potential risks and develop mitigation strategies, providing a proactive approach to managing challenges.

Creating a startup will usually involve identifying sources of funding, creating a business plan, and making sure that your product or service is market viable.

Startup business modeling tools include visual frameworks like the Business Model Canvas and Lean Canvas for strategic planning, process modeling tools such as Bizagi and Lucidchart for workflow design, and financial modeling software like Fuel Finance and Excel/Google Sheets for budgeting and forecasting. Other helpful tools include strategic analysis frameworks like SWOT Analysis and PESTEL Analysis, along with planning software like LivePlan.

Within an organization, a lot happens daily that can go unnoticed. By seeing how processes work, the business can improve for internal and external stakeholders. Business Process Modeling tools matter because they allow CFOs and their organizations to:

- Align operations with business goals;
- Improve communication within a process;
- Increase control and consistency;
- Gain a competitive edge;
- Improve operational effectiveness.

Processes are often created within financial teams and then continued without changes for years. However, at that time, rules and regulations undoubtedly evolve. In the same vein, customers' needs change, too. This makes it essential to continuously revisit how processes function because if something isn't right, there can be detrimental financial consequences from lack of compliance. It is your job as a CFO to tackle these inefficiencies and support the business in optimizing resources and output.

TOPIC 5. PROMOTION OF STARTUP PRODUCTS

1 Guerrilla marketing of a startup.
2 Internet marketing tools.
3 Drawing up a commercial proposal.

1. Guerrilla marketing of a startup.

Guerrilla marketing is a marketing tactic in which a company uses surprise and/or unconventional interactions in order to promote a product or service.

Guerrilla marketing is different from traditional marketing in that it often relies on personal interaction, has a smaller budget, emanates from an original idea to engage the target audience, and focuses on smaller groups of promoters that are responsible for getting the word out in a particular location or locations rather than through widespread uniform marketing campaigns.

The goal of a guerrilla marketing strategy is usually to spend less money.

If this style of marketing is leading to higher costs, re-evaluate your spending as there may be more cost-effective approaches to marketing a brand.

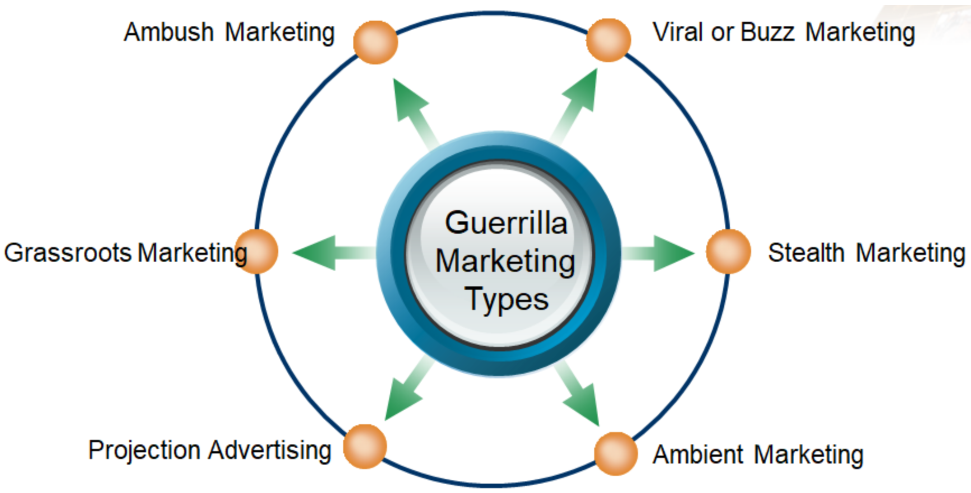

Figure 5.1 – Guerrilla marketing types

Buzz marketing is a marketing technique that focuses on word-of-mouth distribution. Often deployed *in social media*, this strategy relies on one user sharing content from a company with their social network, friends, or family. **Buzz marketing** relies on customers to organically raise awareness of a product or company.

Stealth marketing is a low cost strategy that strives to market to a customer without the customer realizing they are being marketed to.

Ambient marketing is a guerrilla marketing technique that strives to blend into a natural environment. As opposed to a more explicit form of advertising, ambient marketing such as promotions on a bus bench.

Projection advertising entails placing large, captivating ads often on the sides of buildings or bland walls. This style of guerrilla marketing often allows companies to personalize promotions, especially for events. **Grassroots marketing** is a guerrilla marketing approach that relies on fewer resources. Companies that embrace grassroots marketing often employ low-cost marketing strategies that rely on people's time as opposed to larger marketing strategies. **Grassroots marketing** is a more simplistic strategy to embarking on a marketing campaign.

2. Internet marketing tools.

Marketing Tools are tools that companies use to develop and promote their products and services. You need to determine which marketing tools you need. They should help boost sales.

Digital marketing tools are apps that help you attract, engage, sell, and retain business online. You've likely heard the term thrown around a lot, and that's because it can include apps in any category related to marketing—from social media to advertising to content optimization. You get the idea. It's a broad-reaching term.

The best digital marketing tools for websites and SEO.

If you want to increase your brand's visibility or start selling online, you need a website. And in a highly competitive market, anything you can do to boost your search presence is a plus. With the right website tools, it's easy to build an attractive site and find the right keywords to target without breaking the bank.

Here are the best website and SEO tools to get your online presence started on the right foot. If you're looking for even more options, there are plenty of others to choose from:

- Free website builders;
- eCommerce website builders;
- AI website builders;
- Free keyword research tools;
- SEO tools;
- SEO content optimization tools;
- SEO rank trackers;
- SEO audit tools.

The best digital marketing tools for graphics and social media.

Visuals are a must for any digital marketing channel. The good news is that you don't have to break the bank to get high-quality Instagram carousel graphics, YouTube thumbnails, or landing page visuals. And beyond creating content for social media, you can manage your entire social media presence without having a giant team behind you. Here are the best tools to get you started – for even more recommendations, check out our best app roundups:

- Free design tools for social media graphics;
- Free photo editors;
- AI photo editors;
- Social media management tools;

- AI social media management tools.

The best digital marketing tools for customer communication.

Whether you're building an email list, texting customers with order updates and special offers, or offering live chat support on your website, you need the right apps to communicate with your customers. Here are the best customer communication tools to get you started. And if you want even more options to choose from, check out these lists for other great tools:

- Email newsletters;
- Drip campaigns;
- SMS marketing;
- Help desk and customer support;
- Lead generation.

The best digital marketing tools for marketing automation and lead management.

Without automation, marketing teams would be spending most of their valuable time checking off tedious tasks instead of focusing on high-impact, big-picture work. The best marketing automation apps help you standardize your workflows and create more consistent touch points across channels. Here are the best automation and lead management tools to start with. If you want more recommendations, check out our other app roundups:

- Marketing automation software;
- Lead management software;
- CRM software;
- CRM software for small business.

3. Drawing up a commercial proposal.

A commercial proposal (CP) is a structured document that contains all the necessary information for making a decision on cooperation with a company: information about the business, its goods and services.

Commercial offer structure:

- Short introduction/content;
- A concise description of the essence of your commercial proposal (CP);
- Offer. What you offer in a specific CP;
- Benefits. Reasons to buy your product / order a service;
- Quality confirmation. Facts, reviews, guarantees;
- Prices;
- Call to action.

TOPIC 6. ECOSYSTEM (INFRASTRUCTURE) OF A STARTUP

1 The concept of a startup "ecosystem" and its elements.
2 Instruments for financing startup projects.
3 Justification for choosing the most appropriate method of financing.

1 The concept of a startup "ecosystem" and its elements.

A startup ecosystem is formed by people, startups in their various stages and various types of organizations in a location (physical and/or virtual), interacting as a system to create new startup companies.

Startup ecosystems are formed often in a relatively limited area with a center of gravity like a university or a concentration of technology companies.

These organizations can be further divided into categories:

- universities;
- funding organizations;
- support organizations (like incubators, accelerators, co-working spaces etc.);
- research organizations;
- service provider organizations (like legal, financial services etc.);
- large corporations.

Different organizations typically focus on specific parts of the ecosystem function and/or startups at their specific development stage(s).

Elements of Startup ecosystem:

- ideas, inventions and researches;
- start-ups at various stages entrepreneurs;
- start-up team members;
- angel investors;
- start-up mentors;
- start-up advisors;
- other entrepreneurial minded people;
- third people from other organizations with start-up activities.

Startup ecosystem management involves managing the ecosystem as a whole to preserve ecosystem services and resources while sustaining appropriate resource use. It's driven by explicit goals, policies, protocols, practices, and is adaptable by monitoring and research.

Supporting Business Creators.

From both overall business creation perspective, key areas for support to focus are:

Formation **-** is about inspiring and providing access to key knowledge, to help build the right mindset, understanding and abilities for the journey ahead, typical issues to avoid or solve, what steps to take in what order and about available support along the way.

Validation **-** is where the support focus shift to initial product development, strengthening core team via mentoring or new team members, supporting team and product validation and customer development.

Growth - is to focus is mostly about additional resourcing, growth KPI's, creating processes for scaling various business operations, improving financials and help expand business internationally.

Support Services should focus to:

- *support ideation* to create new potential innovations in technology, business models, processes etc. and to develop these to actual growing businesses;

- *to support the team formation* and further development for actual effective organization. Below is a chart of some typical services and to what part of startup development those are most relevant, along with some ecosystem level focus areas in context to these services.

The balance between public services or publicly funded support providers tend to focus in earlier phases, while private and for-profit type of service providers are focusing on later phases of the journey, where the business is starting to have more clarity, shape and ability to pay more for these services.

Modern startup ecosystem.

The modern startup ecosystem is a complex, interconnected network of investors, entrepreneurs, mentors, incubators and accelerators, technology providers, and others. It is a dynamic, ever-changing environment that has formed over a long period.

Venture capital (VC) stands at the center of the modern startup ecosystem. VC firms provide initial funding to startups with high growth potential. They also guide and mentor entrepreneurs in developing business ideas. VCs typically specialize in specific industries or technology areas, such as healthcare or software.

Additionally, *business angels* are another crucial component of the modern startup ecosystem. They also finance entrepreneurs in the early stages, providing advice and guidance. Business angels are often wealthy individuals who want to invest in interesting projects.

In recent years, *several organizations* have emerged to support entrepreneurs. While incubators offer access to shared workspaces and mentors, accelerators provide resources by funding startups in their initial stages. These organizations help entrepreneurs establish connections with potential investors, partners, and clients.

Technology has also played a significant role in shaping the modern startup ecosystem. Companies like Amazon Web Services (AWS) provide cloud computing services, allowing startups to scale their operations without substantial infrastructure investments. Social networks such as Facebook and X enable startups to connect with potential customers and promote products or services quickly and cost-effectively.

2 Instruments for financing startup projects.

Investment instruments or financing instruments refer to the documents or contracts which are used as means to acquire capital (equity or debt).

It is always a binding legal agreement involving a monetary value between the startup and investors. The nature of capital infused may either be in a mode of debt financing or equity financing. These financial instruments may further be divided according to an asset class, depending on whether they are debt-based or equity-based.

One of the most important problems when implementing an investment project is its financing, which should ensure:

- implementation of the project in the designed volume;
- optimal structure of investments and required payments (taxes, interest payments on loans);
- reducing project risk;
- the necessary ratio between those involved and with our own funds.

Of the many startup financing instruments, let’s consider those that are most applicable for startups in the conditions of the Republic of Belarus:

- Friends, Family and Fools – the first stage of raising funds to finance a startup (“seed investments”) is often the founders of the startup, their relatives or friends.
- Initial funds cover the team's expenses for accommodation, development of a business plan and a prototype of the future product;

Of the many startup financing instruments, let’s consider those that are most applicable for startups in the conditions of the Republic of Belarus:

- **crowdfunding** is one of the new ways of financing a startup that has been gaining popularity lately. The process involves receiving investment from more than one person at a time.
- **grants and cash prizes** are quite beneficial. It is useful to participate in various conferences and competitions where entrepreneurs demonstrate their startup ideas along with competitors. All participants will gain useful experience, be able to promote their idea, hear recommendations from experts, and communicate with like-minded people.

Exhibitions in China in 2024.

China International Import Exhibition (CIIE). Date: November 5 – 10, 2024.

Venue: Shanghai, National Exhibition and Convention Center (NECC). A key exhibition event in the PRC, held on the initiative of the Chairman of the PRC with the participation of high-level Chinese and international delegations. Held in Shanghai since 2018 on an annual basis. The exhibition is organized by the Ministry of Commerce of the People's Republic of China and the People's Government of Shanghai.

Chinese international technology exhibition “Smart China Expo” (participation of the Republic of Belarus in 2024 as an honorary guest).

In a short time, the event has become the leading platform in China for **presenting technological innovations** from Chinese and foreign industry in the field of robotics, artificial intelligence, e-commerce, more data, 5G, etc. Thus, before the outbreak of the pandemic in 2019, the exhibition attracted representatives, including heads international organizations, academicians and large enterprise executives from nearly 60 countries and regions, including more than 800 Chinese and foreign enterprises.

3 Justification for choosing the most appropriate method of financing.

A business faces three major issues when selecting an appropriate source of finance for a new project:

Can the finance be raised from internal resources or will new finance have to be raised outside the business?

If finance needs to be raised externally, should it be debt or equity?

If external debt or equity is to be used, where should it be raised from and in which form?

Can the necessary finance be provided from internal sources?

In answering this question the company needs to consider several issues:

How much cash is currently held? The company needs to consider the amount held in current cash balances and short-term investments, and how much of this will be needed to support existing operations. If spare cash exists, this is the most obvious source of finance for the new project.

If the required cash cannot be provided in this way then the company should consider its future cash flow. A cash budget can be prepared, but it is probably too detailed at this stage. A cash flow statement as shown in Example 1 would probably be more practical.

If the company's projected cash flow is not sufficient to fund the new project then it could consider tightening its control of working capital to improve its cash position.

Pressurising debtors for early settlement, running down stock levels and lengthening the payment period to creditors could increase cash resources. Note however, there are dangers in such tactics. For example, lost customer/supplier goodwill and production stoppages due to running out of stock etc.

If the necessary finance cannot be provided internally then the company has to consider raising finance externally.

The cost of finance. Debt finance is usually cheaper than equity finance. This is because debt finance is safer from a lender's point of view. Interest has to be paid before dividend. In the event of liquidation, debt finance is paid off before equity. This makes debt a safer investment than equity and hence debt investors demand a lower rate of return than equity investors. Debt interest is also corporation tax deductible (unlike equity dividends) making it even cheaper to a taxpaying company. Arrangement costs are usually lower on debt finance than equity finance and once again, unlike equity arrangement costs, they are also tax deductible.

The current capital gearing of the business. Although debt is attractive due to its cheap cost, its disadvantage is that interest has to be paid. If too much is borrowed then the company may not be able to meet interest and principal payments and liquidation may follow. The level of a company's borrowings is usually measured by the capital gearing ratio (the ratio of debt finance to equity finance) and companies must ensure this does not become too high. Comparisons with other companies in the industry or with the company's recent history are useful here.

Security available. Many lenders will require assets to be pledged as security against loans. Good quality assets such as land and buildings provide security for borrowing - intangible assets such as capitalised research and development expenditure usually do not. In the absence of good asset security, further borrowing may not be an option.

Business risk. Business risk refers to the volatility of operating profit. Companies with highly volatile operating profit should avoid high levels of borrowing as they may find themselves in a position where operating profit falls and they cannot meet the interest bill. High-risk ventures are normally financed by equity finance, as there is no legal obligation to pay equity dividend.

Operating gearing. Operating gearing refers to the proportion of a company's operating costs that are fixed as opposed to variable. The higher the proportion of fixed costs, the higher the operating gearing. Companies with high operating gearing tend to have volatile operating profits. This is because fixed costs remain the same, no matter the volume of sales. Thus, if sales increase, operating profit increases by a larger percentage. But if sales volume falls, operating profit falls by a larger percentage. Generally, it is a high-risk policy to combine high financial gearing with high operating gearing. High operating gearing is common in many service industries where many operating costs are fixed.

Dilution of earnings per share (EPS). Large issues of equity could lead to the dilution of EPS if profits from new investments are not immediate. This may upset shareholders and lead to falling share prices.

Voting control. A large issue of shares to new investors could alter the voting control of a business. If the founding owners hold over 50% of the equity they may be reluctant to sell new shares to outside investors as their voting control at the AGM may be lost.

The current state of equity markets. In a period of falling share prices many companies will be reluctant to sell new shares. They feel the price received will be too low. This will dilute the wealth of the existing owners. Note this does not apply to rights issues where shares are sold to the existing owners of the company. New issues of shares on the UK stock exchanges have been rare over the last few years due to the bear market. At the time of writing there is some evidence that the bear market is coming to an end.

After consideration of the above points the company will be in a position to decide between the use of debt or equity finance. The last major decision is what type of finance should be used and where should it be raised?

Equity finance

A detailed consideration of the different sources of equity finance is beyond the scope of this article and students are recommended to consult their textbooks or manuals for more detailed coverage. However, here are a few general points on the subject:

For companies who already have shares in issue rights, issues are mandatory under company law. This means that any new shares have to be offered to existing shareholders in proportion to their existing holdings. This is to protect existing shareholders from the company selling shares to new investors at a low price and diluting the wealth of existing shareholders. This requirement may be overcome if existing shareholders are prepared to vote to 'waive their pre-emption rights'.

The current status of the company is important. Companies listed on the London International Stock Exchange or quoted on the Alternative Investment Market (AIM), can raise new equity finance by selling new shares on these markets by way of rights issues, offers for sale or placing. Other companies who lack access to the stock exchange find it more difficult to raise equity finance and may need to turn to venture capitalists if they require equity finance.

Debt finance

Debt finance comes in many different forms. Students will find detailed descriptions in their textbooks and manuals. The major considerations in raising new debt finance are detailed below.

The duration of the loan.

Generally, short-term borrowing (loans for less than one year) is cheaper than longer-term borrowing (loans for more than one year). This is because many lenders equate time with risk. The longer they lend for, the more risk is involved as more things can go wrong. Hence they charge a higher interest rate on longer-term lending than on short-term lending. However, short-term borrowing has a major disadvantage - renewal risk. Short-term loans have to be regularly renewed and the company carries the risk that lenders may refuse to extend further credit. This risk is at its highest on overdraft borrowing where the bank can call in the overdraft 'on demand'. With long-term borrowing, as long as the borrower does not breach the debt covenants involved, the finance is assured for the duration of the loan.

In choosing between short-term and long-term borrowing, the firm should consider the textbook rule of thumb for prudent financing: 'finance short-term investments with short-term funds and long-term investments with long-term funds'. Simply, this means use cheap short-term borrowing where it is safe to do so (investments that are short-term in nature and hence renewal risk is not a problem) but use long-term finance for long-lived investments.

Fixed v floating-rate borrowing.

Many lenders offer the borrower the choice between a fixed rate of interest and one that floats (ie varies) with the general level of interest rates. Fixed-rate borrowing has the attraction of certainty (you know what interest rate you are going to pay) but on average is more expensive. This is because lenders see themselves as taking more risk on fixed-rate lending as they may lose out if interest rates increase. Generally, floating (variable) rate borrowing is cheaper, but it carries more risk to the borrower as interest payable may increase if interest rates rise. If a firm is already highly geared it may consider the risks of floating-rate borrowing too high.

The status of the company.

Some types of debt finance are only available to large listed companies. Small companies are usually restricted to short-term borrowing. If long-term debt finance is available it is usually in the form of leasing, sale and leaseback, hire purchase or mortgage loans on property.

Currency of borrowing.

It is important to remember that if a company borrows in a foreign currency it has to repay the loan and the interest in that currency. Currency fluctuations may add to the cost of the loan and increase the risk involved.

Debt covenants.

Borrowing money often entails certain obligations for the borrower over and above repaying the interest and principal. These are referred to as covenants. These include restrictions on the use of assets financed by the loan, restrictions on dividend payments and restrictions on further borrowing. Such covenants restrict the flexibility of the borrower and should be carefully considered before borrowing money.

Debt financing is the acquisition of a financial loan or a bond to obtain funding for a business. The reasons for obtaining debt financing may range from a strategic decision to anything including obtaining additional working capital, avoiding equity dilution, buying assets, and/or acquiring other entities.

Equity financing refers to the sale of company shares in order to raise capital. Investors who purchase the shares also purchase certain ownership rights in the company depending on the mode of equity financing used and the investment value.

Contrary to debt financing, the returns on investments are not guaranteed and absolute in equity financing. The returns, if any, depends on the growth and profits made by the startup. The founders are not burdened to return the investment amount to the investors.

The founders are not burdened to return the investment amount to the investors. As and when the business grows, the value of the company shares grows and as a result of which, the investors realise their investment amount with good returns.

While many traditional investors understand only the direct equity model, wherein the investor purchases the equity shares of a company and reaps the fruits of that share by selling the share for profits.

TOPIC 7. RISKS OF STARTUPS. ASSESSMENT AND MANAGEMENT

1 Types of basic startup risks.
2 Taking into account startup risks in cash flow.
3 Taking into account risks in the discount rate.
4 Assessing the effectiveness of a startup project within the framework of a corporate accelerator.

1 Types of basic startup risks.

Basic startup risks can be categorized into several key types, including strategic, operational, financial, market, and compliance risks. Strategic risks involve long-term planning and external influences, operational risks relate to day-to-day processes, financial risks deal with funding and profitability, market risks are connected to industry and competition, and compliance risks involve legal and regulatory adherence. Understanding these fundamental categories helps founders manage threats and build a resilient business.

There are the following types of business risks:

Strategic Risk. Strategic risk arises when a business does not operate according to its business model or plan. When a company does not operate according to its business model, its strategy becomes less effective over time, and the company may struggle to reach its defined goals. For example, imagine ABC Store is a big box store that strategically positions itself as a low-cost provider for working-class shoppers. Its main competitor is XYZ Store, which is seen as a destination for more middle-class consumers. However, if XYZ decides to undercut ABC's prices, this becomes a strategic risk for ABC.

Compliance Risk. The second form of business risk is compliance risk, sometimes known as regulatory risk. Compliance risk primarily arises in industries and sectors that are highly regulated.

Operational Risk. The third type of business risk is operational risk. This risk arises from within the corporation, especially when the day-to-day operations of a company fail to perform.

Reputational Risk. Anytime a company's reputation is ruined, either by an event that was the result of a previous business risk or by a different occurrence, it runs the risk of losing customers and its brand loyalty suffering. The reputation of HSBC faltered in the aftermath of the fine it was levied for poor anti-money laundering practices.

2 Taking into account startup risks in cash flow.

Every successful startup begins with innovative ideas, dedicated founders, and ambitious goals. Yet beneath the surface of product launches and growth metrics lies a fundamental challenge that threatens even the most promising ventures: cash flow management. While many founders excel at building products and winning customers, it's often their ability to manage the timing and flow of money that determines their company's survival.

When companies can't effectively manage the balance between money coming in and going out, even strong business models and growing revenue can't ensure survival. This challenge becomes particularly acute for early-stage companies that typically operate with limited reserves while facing significant upfront costs and irregular revenue patterns.

For early-stage companies, understanding and preparing for common cash flow challenges is crucial for survival and growth. Let's consider the most common cash flow problems that startups encounter and provide practical strategies for addressing them effectively, no matter what industry you're in.

1. Late payments from customers

Late-paying customers can crush a startup's cash flow, creating a dangerous gap between delivering services and receiving payment. When clients consistently delay payments beyond agreed-upon terms, young companies are forced to essentially provide interest-free financing while still meeting their own financial obligations. This strain becomes particularly acute for service-based startups or those with large project-based contracts, where significant resources are invested upfront but payment might not arrive for 60, 90, or even 120 days.

How to deal with this problem?

To combat late payment issues, startups can implement several proactive measures to protect their cash flow. Setting clear payment terms upfront, requiring deposits for large projects, and implementing invoice automation software can help minimize payment delays. The most successful startups also diversify their client base to avoid over-reliance on a few large customers and maintain a cash reserve specifically to buffer against late payments.

2. High overhead costs

High overhead costs can quickly drain a startup's cash reserves, particularly during the early stages when revenue might not yet be stable. Fixed expenses like office space, utilities, equipment leases, and software subscriptions create ongoing financial obligations that must be met regardless of the company's income level. It's easy for startups to fall into the trap of taking on premium office space or investing in top-tier equipment before their revenue can sustainably support these costs, which creates unnecessary pressure on their cash flow.

The challenge of managing overhead becomes even more complex as a company scales and startup costs grow. Each new hire brings additional costs beyond just salary – from benefits and workspace to technology and training expenses. Without careful planning, these operational costs can grow faster than revenue, creating a dangerous cash flow squeeze.

How to deal with this problem?

Here are some practical solutions to help startups better manage overhead costs. Start lean by embracing remote work options, using flexible coworking spaces, and leveraging cloud-based solutions that scale with your needs. Regularly audit all subscriptions and services, negotiating better terms or finding more cost-effective alternatives. Consider outsourcing non-core functions instead of hiring full-time staff during the early stages, and look for opportunities to share resources with other startups.

3. Lack of cash reserves

Operating without adequate cash reserves leaves startups dangerously exposed to market fluctuations and unexpected challenges. While many founders focus on securing investment for growth initiatives, they often underestimate the importance of maintaining a healthy cash buffer for day-to-day operations. This oversight can prove catastrophic when facing unexpected expenses, seasonal revenue dips, or economic downturns. Industry experts typically recommend maintaining enough cash reserves to cover at least 3-6 months of operating expenses, yet many startups operate with far less, leaving them vulnerable to even minor disruptions in their cash flow.

The consequences of insufficient cash reserves extend beyond just survival concerns — they can severely limit a startup's ability to capitalize on growth opportunities. Without adequate reserves, companies might be forced to pass on bulk inventory discounts, miss out on strategic hires, or be unable to take on larger clients due to working capital constraints. This creates a frustrating cycle where the lack of cash reserves not only increases operational risk but also hampers the company's ability to scale efficiently and compete effectively in its market.

How to deal with this problem? To build and maintain healthy cash reserves, startups should implement a systematic approach to cash flow management.

This includes establishing a regular savings schedule, setting aside a percentage of revenue during strong months, and creating clear guidelines for when reserves can be used. Additionally, developing multiple revenue streams and maintaining strong relationships with potential investors or lenders can provide additional safety nets during challenging periods.

4. Insufficient revenue forecasting

Poor revenue forecasting can blindside startups with cash flow shortfalls, making it nearly impossible to plan effectively for growth or manage expenses strategically. Many early-stage companies struggle with forecasting because they lack historical data, operate in rapidly evolving markets, or simply don't have the expertise to create accurate financial projections. When forecasts are overly optimistic or fail to account for seasonal fluctuations, startups often make spending commitments based on expected revenue that never materializes, leading to serious cash flow crises.

The ripple effects of inadequate forecasting extend throughout the business, affecting everything from hiring decisions to inventory management and marketing investments. A startup might ramp up staffing based on projected sales growth, only to find themselves unable to meet payroll when revenue falls short of expectations. Similarly, marketing campaigns or inventory purchases timed around anticipated revenue spikes can backfire dramatically when those projections prove inaccurate, leaving the company with unsold stock or wasted marketing spend that drains precious cash reserves.

How to deal with this problem? To improve revenue forecasting accuracy, startups should adopt a data-driven approach that combines bottom-up and top-down analysis. This includes tracking key performance indicators (KPIs) meticulously, analyzing industry trends and seasonal patterns, and regularly updating forecasts based on actual performance. Building in contingencies for different scenarios and maintaining open communication with customers about their future purchasing plans can also help create more reliable projections.

5. Seasonal fluctuations in sales

Seasonal sales fluctuations can create severe cash flow challenges for startups, particularly when they're unprepared for the natural ebbs and flows of their industry. Whether it's a summer slump in B2B sales, holiday-driven retail peaks, or weather-dependent service businesses, these predictable yet challenging cycles can strain a company's financial resources. Many startups make the critical mistake of treating their peak season revenue as the norm, leading to unsustainable spending patterns that become problematic during slower periods.

The impact of seasonality extends beyond just revenue variations – it often requires businesses to make significant investments during their slowest cash flow periods. For example, a startup selling holiday-themed products might need to purchase inventory during summer months when sales are minimal, creating a substantial cash flow gap between expenditure and revenue. Similarly, companies with summer peak seasons often need to hire and train staff during spring, requiring significant cash outlays before the busy season begins. Without proper planning, these seasonal demands can force startups into expensive short-term financing solutions or cause them to miss out on crucial inventory or staffing opportunities.

How to deal with this problem? To effectively manage seasonal fluctuations, startups should develop comprehensive seasonal planning strategies. This includes building cash reserves during peak periods, implementing flexible staffing models, negotiating extended payment terms with suppliers for off-season purchases, and diversifying product or service lines to create more consistent year-round revenue streams. Some successful startups even develop complementary offerings specifically designed to offset their seasonal downturns.

6. Overdependence on a few clients

Relying too heavily on a small number of clients can create dangerous cash flow vulnerabilities for startups, even when those relationships appear stable. While landing a major client early can feel like hitting the jackpot, having too much revenue concentrated in a few accounts leaves startups exposed to significant risks. If a key client experiences financial difficulties, changes vendors, or simply delays payment, the impact on the startup's cash flow can be immediate and severe. Research shows that startups with more than 30 % of their revenue coming from a single client are particularly vulnerable to cash flow disruptions.

The problems of client concentration often compound over time as startups build their operations around serving these major accounts. Teams expand, processes are customized, and infrastructure is scaled to meet specific client needs – all of which can make it harder to diversify the client base later. This dependency can also weaken a startup's negotiating position, forcing them to accept unfavorable payment terms or pricing adjustments from dominant clients who know the startup can't afford to lose their business. Even worse, some startups find themselves unable to pursue new opportunities because their resources are completely tied up in serving their existing major clients.

How to deal with this problem? To mitigate client concentration risks, startups should prioritize diversification from the beginning. This includes actively prospecting for new clients even when current accounts seem stable, developing scalable products or services that appeal to a broader market, and setting internal limits on the percentage of revenue any single client can represent. Building a more diverse client base not only provides better cash flow stability but also creates valuable market validation and reduces the impact of any single client's business decisions.

7. Rapid growth

While rapid growth might seem like a dream scenario, it can actually create severe cash flow challenges that catch many startups off guard. The "success trap" of rapid growth often requires significant upfront investments in inventory, staff, equipment, or infrastructure long before the additional revenue starts flowing in. This timing mismatch can quickly drain available cash reserves, especially when growth accelerates faster than expected. For example, a software startup might need to invest heavily in server capacity and support staff months before new subscription revenue begins to offset these costs.

The cash flow strain of rapid startup growth becomes particularly acute when scaling requires multiple simultaneous investments. A startup might need to hire new employees, expand office space, increase inventory, and enhance its technology infrastructure all at once to keep pace with demand.

Each of these investments creates its own cash flow pressure point, and when combined, they can create a perfect storm that threatens even financially healthy companies. Many startups find themselves in the paradoxical position of being more financially stressed during periods of rapid growth than during slower periods, as they struggle to finance their expansion while maintaining day-to-day operations.

How to deal with this problem? To manage growth-related cash flow challenges effectively, startups need to develop comprehensive startup growth strategies that carefully balance opportunities with cash flow realities. This includes creating detailed capital requirement forecasts for different growth scenarios, establishing clear triggers for when to make specific investments, and maintaining strong relationships with potential funding sources that can provide working capital loans. Some successful startups deliberately throttle their growth to maintain healthier cash flow, focusing on sustainable expansion rather than pure growth rates.

8. Poor financial management practices

Poor financial management practices can cripple a startup's cash flow, even when the underlying business model is sound. Many founders, especially those from technical or creative backgrounds, struggle with fundamental financial practices like maintaining accurate books, reconciling accounts regularly, or implementing proper invoicing systems.

These shortcomings often start small – a few missed invoice follow-ups, unmanaged business expense cards, irregular expense tracking, or delayed bank reconciliations – but can quickly snowball into major cash flow problems. Without a solid startup budget, clear visibility into financial metrics, and reliable processes for managing money, startups make crucial decisions based on incomplete or inaccurate information.

The consequences of inadequate financial management extend far beyond just administrative headaches. Startups might miss early warning signs of cash flow problems, overlook opportunities to optimize working capital, or fail to detect costly inefficiencies in their operations.

Poor expense tracking can lead to unnecessary spending and budget overruns, while irregular invoicing and collection practices result in delayed payments and strained customer relationships. These issues become particularly damaging during fundraising or due diligence processes, where potential investors or partners expect to see clear, accurate financial records and evidence of strong financial controls.

How to deal with this problem? To establish strong financial management practices, startups should prioritize building a solid financial infrastructure from day one. This includes implementing robust accounting software, establishing clear processes for expense approval and tracking, developing regular financial reporting routines, and possibly engaging professional financial expertise, even if only on a part-time basis. Regular financial reviews and forecasting sessions can help identify potential issues before they become critical problems.

3 Taking into account risks in the discount rate.

When analyzing investments or projects for profitability, cash flows are discounted to present value to ensure the true value of the undertaking is captured. Typically, the discount rate used in these applications is the market rate.

However, based on circumstances related to the project or investment, it may be necessary to utilize a risk-adjusted discount rate.

A discount rate takes account of the time value of money to commensurate dollars earned in the future with their purchasing power today. In addition to time horizon, the level of risk involved in an investment or project that can create volatility in future cash flows should be taken into account. There are several ways to incorporate risk into the discount rate. The greater the perceived risk, the higher the discount rate adjustment.

The most common adjustment relates to uncertainty to the timing, dollar amount, or duration of cash flows. For long-term projects, there is also uncertainty relating to future market conditions, profitability of the investment, and inflation levels.

For projects overseas, currency risk and geographical risk should also be considered. A company may adjust the discount rate to reflect Investments with the potential to damage a company's reputation, lead to a lawsuit, or result in regulatory issues. Finally, the risk-adjusted discount rate is altered based on projected competition and the difficulty of retaining a competitive advantage.

Relationship Between Discount Rate and Present Value.

When the discount rate is adjusted to reflect risk, the rate increases. Higher discount rates result in lower present values. This is because the higher discount rate indicates that money will grow more rapidly over time due to the highest rate of earning. Suppose two different projects will result in a $10,000 cash inflow in one year, but one project is riskier than the other.

The riskier project has a higher discount rate that increases the denominator in the present-value calculation, resulting in a lower present value calculation. The lower present value for the riskier project means that less money is needed upfront to make the same amount as the less risky endeavor.

What Is the Capital Asset Pricing Model (CAPM) Formula?

The CAPM formula is:

Expected return = Risk-free rate + (Beta x Market risk premium)

CAPM is key to calculating the weighted average cost of capital (WACC), which is commonly used as a hurdle rate against which companies and investors can gauge the desirability of a given project or acquisition.

Is It Better to Have a Higher or Lower Discount Rate? The discount rate reduces future cash flows, so the higher the rate, the lower the present value of future cash flows. When the discount rate is higher, it means money in the future will be worth less than it is today. Essentially, it will have less purchasing power.

What Is the Biggest Disadvantage of the Risk-Adjusted Discount Rate? The biggest flaw is in being subjective in determining the risk premium. If the risk premium is more or less than necessary, the risk of the project and its likely present value will be less or more than it should be. The risk-adjusted discount rate reflects the relationship between risk and return.

With higher risk exposure and the possibility of greater losses comes an expectation on the part of an investor of being rewarded with potentially higher returns. This is shown in the risk-adjusted discount rate as the adjustment changes the discount rate based on the risk faced.

Uncertainty as to the timing, dollar amount, or duration of cash flows lead to adjustments to the discount rate. There can also be uncertainty in future market conditions, profitability of an investment, and inflation levels when long-term projects are considered. These and other factors make the risk-adjusted discount rate a useful metric.

4 Assessing the effectiveness of a startup project within the framework of a corporate accelerator.

Assessing a startup's effectiveness within a corporate accelerator requires evaluating both financial and strategic metrics, such as new revenue, costs saved, and venture funding raised, alongside non-financial indicators like market reach, strategic alignment, and stakeholder satisfaction.

The assessment should use a balanced framework that considers the startup's performance from multiple perspectives, including innovation, satisfaction, process efficiency, and growth, to get a complete picture of success beyond simple financial returns.

Startup accelerators are a highly useful part of the entrepreneurial ecosystem. They are responsible for supporting young innovative enterprises with innovative ideas at the early stages of their development. Problems related to building a business model, raising funds for business development, or determining the directions of development of the products and services offered are often just the tip of the iceberg, which can be a serious obstacle preventing survival on the market and achieving commercial success. Accelerators are entities supporting innovation, which, using the tools and programs they have, can significantly facilitate issues related to running a business by immature start-ups and significantly contribute to overcoming the challenges that constantly appear before them. Due to the importance of innovation in the global economy and its obvious connection with start-ups, scientists in the last decade have clearly marked their interest in the subject of start-up accelerators.

The dynamics of changes currently taking place in the global economy forces enterprises to constantly adapt to the constantly changing environment. What is standard today may be a long-forgotten and inefficient technology tomorrow.

The evolution of the global economy is determined by such phenomena as the pursuit of sustainable development, environmental protection and changes in accordance with the assumptions of Industry 4.0. However, it is necessary to take into account the possibility of the emergence of new philosophies, phenomena and technologies that may change the direction in which the world economy is heading.

Entrepreneurs must be aware of the pace of change and constantly observe their micro- and macro-environment. In this way, they can gain valuable information about the changes taking place in the environment, learn about the needs of potential customers, and thus give themselves a chance to properly adapt to the changing requirements of the business environment. Careful observation can lead to the clarification of innovative solutions that will meet market needs. It is innovations that are the driving force of change and one of the main stimuli for generating an advantage over the competition, which defines the company’s position in the business chain. The current functioning of the market indirectly forces enterprises to introduce innovations, because only such activities can guarantee their survival.

The market demand for novelties and creative solutions is huge. Entities that very often provide this valuable “resource” are start-ups. These, however, despite having a “breakthrough” solution, often do not have the appropriate knowledge on how to transform their innovation from an idea into a real business. Issues related to launching a product or service on the market or properly presenting it to the client often exceed the capabilities of start-ups.

Sometimes an idea possessed by young companies, even though it is interesting and innovative, for some reasons has no chance for effective commercialization and scaling. Start-ups are often characterized by a weaker financial condition and relatively low maturity, which can significantly hinder activities related to introducing a product or service to the market. The answer to such problems is start-up accelerators, which can significantly support the processes of building a business framework for young enterprises.

Accelerators can offer assistance on many levels of start-up activity. This may be expert assistance concerning issues in the field of activity of the supported entity, or financial assistance supporting the processes of introducing a new solution to the market. The start-up accelerator should be treated as an intermediary that paves the way for young enterprises to introduce an innovative idea to the market. Different entities can play the role of an accelerator, ranging from mature enterprises that set up their own corporate accelerators in order to seek innovation from the outside, to various types of accelerators fully specialized in building relationships between a corporation and a start-up or between a market and a start-up. Each of the potential parties to the acceleration program has its own motivations, but only their effective cooperation can bring benefits to all parties.

TOPIC 8. ECONOMETRICS AND FINANCE OF STARTUPS. EVALUATION OF THEIR EFFECTIVENESS

1 Calculation of the total costs of developing a startup product.
2 Indicators of the startup's operating efficiency.
3 Assessing the effectiveness of a startup project in the interests of the venture investor.
4 Assessing the effectiveness of a startup project within the framework of a corporate accelerator.

1. Calculation of the total costs of developing a startup product.

Startup valuation is the process of determining its value based on the analysis of a number of indicators.

To fully evaluate a startup **information about:**

- revenue,
- risks,
- profit and loss,
- other data is required.

The goal is to provide entrepreneurs and investors with more visual tools for making decisions regarding the purchase, sale or financing of a startup.

There are two ways to evaluate a company: through market value and intrinsic value.

The market value obviously reflects the valuation from the point of view of the market.

It is influenced by the economic situation, it can change under external factors, and because of this, businesses can be overestimated or undervalued.

Market valuation is more often given to public companies.

Startups, as a rule, remain private and are not publicly traded on the market.

The internal value is a reflection of the real price in isolation from the current market; the economic situation affects it less. In the case of startups, which usually have no market valuation, investors focus on the intrinsic value.

Investment bank specialists use startup evaluation to provide effective support to clients with purchase, sale and investment issues.

Cost information is important for compiling industry reports and attracting new customers.

The data needed to evaluate a startup:

- *Financial reports.* Detailed information about income and expenses allows you to make a forecast for the flow of funds, profit, and growth rates;
- *Managerial experience.* The professionalism and experience of the team also affect the estimated value of the business.
- *Market conditions.* External factors should be taken into account: *the state of the economy and the sector, the level of interest rates, average wages, competition;*
- *Tangible assets.* Equipment, real estate, vehicles and other real-world

objects;

- *The size of the company.* The larger the company, the higher the revenue, as a rule.

What is the importance of financial assessment for the success of a startup? Financial assessment.

- Financial evaluation plays a crucial role in the success of a startup.
- It involves analyzing the financial health and performance of the company to make informed decisions regarding its future.

Key reasons why financial evaluation is important for startup success:

1. *Identifying and managing risks:* Financial evaluation helps startups identify potential risks and challenges that may affect their success.
2. *Attracting investors:* Investors are more likely to finance startups with a solid financial foundation.
3. *Setting realistic goals and objectives:* Financial assessment allows startups to set realistic goals and objectives based on their financial capabilities.
4. Planning and Budgeting: Financial assessment provides startups with the necessary information to create comprehensive business plans and budgets.
5. *Performance monitoring and measurement:* Regular financial assessment allows startups to track the compliance of their results with established goals and objectives.
6. *Compliance with regulations and legal requirements:* Financial assessment helps startups ensure compliance with accounting standards, tax regulations and other legal requirements.
7. *Making informed strategic decisions:* Financial assessment provides startups with the data and ideas they need to make informed strategic decisions.

2. Indicators of the startup's operating efficiency.

Sound financial management and cost control are essential for startups to achieve operational efficiency and sustainability.

By implementing effective financial management practices and maintaining tight cost control measures, startups can optimize resource allocation, improve profitability, and enhance operational efficiency.

Some strategies to assess and improve financial management in startups:

1. *Budgeting:* Startups should develop detailed budgets that track revenue, expenses, and cash flow projections. Regularly reviewing and comparing actual results against the budget helps identify areas of overspending or potential cost savings.
2. *Cost Analysis:* Conducting a thorough analysis of costs can help startups identify areas where expenses can be reduced without compromising quality. This can involve renegotiating contracts with suppliers, optimizing inventory management, or exploring alternative sourcing options.
3. *Financial Reporting:* timely and accurate financial reporting is crucial for startups to make informed decisions and assess their financial health.

Startups should establish robust financial reporting systems and regularly review financial statements, key metrics, and performance indicators.

4. Cost Control Culture: Promoting a cost-conscious culture within the startup can encourage employees to make informed decisions that prioritize cost control. Startups should educate employees on the impact of their actions on the overall financial health of the company.

5. Cash Flow management: Cash flow management is critical for startups, as insufficient cash reserves can disrupt operations and hinder growth.

Startups should closely monitor cash inflows and outflows, project cash requirements, and establish contingency plans to address potential shortfalls.

3. Assessing the effectiveness of a startup project in the interests of the venture investor.

Startup evaluation is useful for venture capital companies and departments in corporations to:

- track fluctuations in the value of your portfolio;
- analyze the prospects of a particular acquisition;
- use cost data to negotiate the purchase of a stake in a startup;
- sell your shares in startups.

How does financial evaluation impact investor confidence in startups?

Financial evaluation plays a crucial role in shaping investor confidence in startups. Investors are primarily interested in maximizing their returns on investment while minimizing risks. Therefore, they heavily rely on financial evaluation to assess the financial viability and potential of a startup.

Financial evaluation has a significant impact on investor confidence in startups.

By assessing the accuracy of financial projections, profitability, cash flow, financial risks, valuation, and transparency, investors gain a comprehensive understanding of a startup's financial viability and potential.

A well-conducted financial evaluation provides investors with the necessary information to make informed investment decisions, increases their confidence in the startup, and ultimately facilitates funding for the startup's growth and success.

4. Assessing the effectiveness of a startup project within the framework of a corporate accelerator.

The financial evaluation process is a critical aspect for startups as it helps determine their financial viability and potential for growth.

However, startups often encounter several challenges during this process, which can impact their ability to secure funding or make informed decisions.

Corporate accelerators have emerged rapidly over the last few years and have become a cross-industrial global phenomenon. Established companies interact with startups through these programmes in a structured approach. Recent academic research shows that programmes exist with diverse characteristics, providing various resources and services such as investment capital, office space, mentoring or training to the startups. Currently, the corporate accelerator landscape is undergoing change, with companies adjusting their programme characteristics. One reason for this development seems to be that companies struggle to provide the right resources to startups.

Social and business networks are considered to be the key resources for business incubators for the purpose of discovering opportunities and improve effectiveness for entrepreneurs, especially in the case of scarce resources. The social networks give special privileges to business incubators and their clients by shortcutting the way and saving valuable time regarding decision making factors and expediting processes. Regarding business network of business incubators, this can provide access to mentors, business partners and support during incubation and post-incubation period. It works well hand in hand with social network, because it will enhance the possibility and probability for success. These two networks can be in the shape of formal or informal partnerships with private, NGO or government institutions.

To increase the efficiency and effectiveness of business incubators, suggested the following strategies:

1. Locating a business incubator in each technology or research park and/or free economic zones along with a FabLab (According to FabLabs foundation, a fablab "Is a technical prototyping platform for innovation and invention, providing stimulus for local entrepreneurship"). Meanwhile the technology parks, research parks and free economic zones provide mainly physical infrastructure, the business incubators will contribute to the success of the companies through know how, extensive network and mentorship programs.

2. Introducing regional models of incubation–due to several regional specificities, the incubation model should be customized according to local structure for enhancing entrepreneurship, culture and economic development.

3. Specializing incubators per regions, according to the specific of each region and/or its potential for development, having maximum 2 different related industries (exception the business incubators located in the free economic zones which need to be diversified and having a managerial board with diverse specialties).

4. Shifting slowly from brick-and-mortar towards online incubators, partially or totally. This movement will reduce costs for all involved parties, will make the communication process easier and might offer some special facilities (like experts from other countries which can be available at one-click distance).

5. Creating country or regional level business incubators associations to support and promote the projects, offer specialized assistance to new projects, assist the government to improve the laws and regulations regarding incubation.

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