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START-UPS A FORM OF INNOVATIVE ENTREPRENEURSHIP

СТАРТ-АПИ ЯК ФОРМА ІННОВАЦІЙНОГО ПІДПРИЄМНИЦТВА

ANNOTATION

The article studies the essence of the concept «start-up». Approaches to its interpretation as an economic category were analyzed. The main stages of development start-up companies and forms of financing were described. Comparative analysis of criteria attribution of companies to category start-ups was made. The main types of start-up companies were characterized.

Keywords: start-up, innovative company, types of start-ups.

АНОТАЦІЯ

У статті досліджено сутність поняття «старт-ап». Проаналізовано підходи до його інтерпретації як економічної категорії. Розглянуті основні етапи розвитку старт-ап компаній та форми фінансування. Зроблений порівняльний аналіз критеріїв віднесення компанії до категорії старт-апів. Охарактеризовано основні типи старт-ап компаній.

Ключові слова: старт-ап, інноваційне підприємство, типи старт-апів.

АННОТАЦИЯ

В статье исследована сущность понятия «старт-ап». Проанализированы подходы к его интерпретации как экономической категории. Рассмотрены основные этапы развития старт-ап компаний и формы финансирования. Сделан сравнительный анализ критериев отнесения компании к категории старт-апов. Охарактеризованы основные типы старт-ап компаний.

Ключевые слова: старт-ап, инновационное предприятие, типы старт-апов.

Problem statement. The role of start-up companies in global economy is growing. Countries with well-developed innovative system give a special attention to development of this segment. For instance, in the USA employs more than 10% of working population (12 million people) in companies-beginners founded with support of venture capital, the aggregate income of American start-ups today is approaching $3 trillion. (21% of GDP), and in 2012 was adopted the Law «On support for start-up companies in the United States» (Jumpstart Our Business Startups Act of 2012). This is the evidence of government support aimed on stimulating start-up development as small and medium businesses. A similar practice takes place in the EU. This trend *requires a clear understanding of start-ups essence and their basic forms of functioning, which is a necessary prerequisite for the introduction in appropriate government policies to support them.* In Ukraine is still missing not only these tools, but also a clear definition in legal field the term «start-up company».

Analysis of recent researches and publications. Many scientific papers are devoted to problems of state support small and medium-sized innovative enterprises. Among the Ukranian scientists who have examined the issue of state support small innovative enterprises are V. Heyets and V. Seminozenko, V. Zyank`ko, L. Marchuk [1-3]. In particular V. Heyets and V. Seminozenko analyzed measures for creating and support small and medium-sized companies in the field of «high-tech» in context of EU innovation policy, and proposed their own vision of development environment small and medium-sized innovative companies in Ukraine [1]. V. Zyank`ko explored problems of functioning innovative entrepreneurship and stressed the importance of state support small innovative enterprises [2]. L. Marchuk defined the role of small and medium-sized enterprises and proposed areas of support small innovative entrepreneurship [3]. Analysis of recent publications has shown that start-up companies are studied mainly from the point of innovative entrepreneurship [12, 16-18]. International organizations have shown a growing interest to start-up companies because they often associated with high-tech projects. Among recent publications devoted to start-ups it is necessary to highlight reports of the United Nations Economic Commission for Europe [4; 15; 20], the Organisation for Economic Cooperation and Development (OECD) [6; 8-9; 13]. However, the issues related to state support start-up companies as a new form of innovative entrepreneurship are not sufficiently investigated.

The purpose of article. The aim is to study the nature of start-up companies and their role in modern economy, state support mechanisms for these companies.

Results of research. Start-up (from the English «start-up») – is a new established company, which builds its business on the basis of innovations or innovative technologies, just started or not yet released to market and has a limited set of resources. Very often the term «start-up» refers to the Internet companies and other companies working in the field of information technology, however it also extends to other spheres of activity.

The history first start-up companies originated from the Second World War. During this period began to develop scientific, technological and industrial parks, business incubators, clusters, spin-offs, seed companies and start-ups. The pioneers in this were the USA, which allowed them to create an efficient national innovation system and a competitive economy.

In the late 1990s, the most common type of start-up companies was a dot-com. Venture capital was extremely easy to obtain during that time due to frenzy among investors to speculate on the emergence of these new types of businesses. Unfortunately, most of these Internet start-ups eventually went bust due to major oversights in their underlying business plans, such as a lack of sustainable revenue. However, a few Internet start-ups survived. The Internet bookseller Amazon.com and Internet auction portal eBay are examples of such companies [5].

The interest has been further enhanced by «Silicon Valley experience» – the observation in the USA that a high level of start-up activity goes hand in hand with economic progress. As a result, developed countries have established a range of programmes for start-ups support and small and medium-sized enterprises [6, p. 4]. In the 1990s–early 2000s in the United States close collaboration between higher education institutions and private sector coupled with the substantive private financing of R&D was a key growth factor of innovation start-ups [4, p. 15-16]. Europe, which tried to keep up with the USA in scientific and technical sphere, has also offered new tools for increasing competitiveness: COST (Cooperation in Science and Technology), EUREKA (European Research Coordination Agency), ETP (European Technology Platform), JTI (Joint Technology Initiative), CIP (Competitiveness and Innovation Programme), EIB (European Investment Bank) and other [7, p. 55].

The concept of «start-up» or «start-up company» is relatively new in economics.

Existing interpretations of this concept and also identified interpretations during the research process presented in publications of world organizations and encyclopedic dictionaries are given in table 1.

Summarizing the above mentioned interpretations, we can say that *start-up is a small company on the 1st stage of its development with sufficiently limited number of assets, created for very fast growth, the aim of which is to bring new ideas and inventions to market.* Start-up businessmen and co-founders considering concept of «start-up companies» as a form of innovative business (table 2).

Summarizing filed interpretations of start-ups by representatives of business sector, we can say that *it is a small company with high growth rates, which aims to create new products and services under conditions of extreme uncertainty, and success depends on each team member.*

Table 1

«Start-up» interpretation by international organizations and dictionaries

Definition	**Organisation / Year**
Start-ups are companies, which often have little assets, they need to protect their technologies and use to raise capital. These companies help bring new ideas and inventions to the market [9, p. 22].	OECD 2007
Start-up companies have a short life expectancy and depend on public support [8, p. 23].	OECD 2006
Start-ups are companies based on new technologies or other innovations that have a significant impact on the growth and economic development [6, p. 4].	OECD 2012
Innovative start-ups are companies, that build their competitive advantage on innovations arising from research and development. These businesses are often spin-offs from other enterprises or from research centres or universities. Converting their ideas into commercial applications depends largely on cooperation among research centres, universities and the private sector, as well as a set of support measures put in place by government agencies [13, p. 46].	OECD 2013
Start-up companies are small enterprises established for the purpose of developing a new product or technology, mainly in the fields of software, the Internet and telecommunications [15, p. 2].	UNECE 2003
Start-ups are newly created companies, often in high technology sectors. Typically, they experience uncertainty regarding their sources of financing and the choice of appropriate business model [4, p. 68].	UNECE 2012
Start-up companies are newly founded companies or entrepreneurial ventures that are in the phase of development and market research. They are usually, but not necessarily, associated with high-tech projects because their product is mostly software which can be easily produced and reproduced [14, p. 19].	UNECE 2014
Start-up is a business in the form of a company, a partnership or temporary organization designed to search for a repeatable and scalable business model [10].	2012
Start-up is a company that is in the first stage of its operations. These companies are often initially bank rolled by their entrepreneurial founders as they attempt to capitalize on developing a product or service for which they believe there is a demand. Due to limited revenue or high costs, most of these small scale operations are not sustainable in the long term without additional funding from venture capitalists [5].	2012
Start-up is a company on the earliest stage of development. Start-up companies concentrate on product development and build up of capitalization. Most start-ups rely on venture capital or loans to continue operations during this phase [11].	2012

Table 2

«Start-up» interpretation by representatives of this business

Definition	Year	Source
A start-up is a human institution established to create new products and services under conditions of extreme uncertainty [16, p. 17].	2011	Eric Ries, businessmen
A start-up is a company working to solve a problem where the solution is not obvious and success is not guaranteed.	2013	Dave Gilboa Blumenthal, co-founders of Warby Parker
A start-up is a group of people working towards a common goal, generally with limited time. A start-up ceases when everyone involved stops working there.	2013	Igram Magdon – Ismail, co-founder Venmo
A start-up is a small, high-growth company based on a big idea. Start-up is simply a series of experiments looking for evidence of repeatable outcomes.	2013	Ariel Garten, co-founder and CEO of InteraXon
A start-up is something new – a process, a product, a category, a business model, an ecosystem.	2013	Ayah Bdeir, founder of littleBits
A start-up is a state of mind. People join to these company and make decisions to abandon stability in exchange for the promise of tremendous growth and the excitement.	2013	Adora Cheung, co-founder of Homejoy
A start-up is a new product or a new market, with less than 50 people, with the intention of growing quickly to scale [12].	2013	Rob May, CEO and co-founder of Backupify
A start-up is a company that goes by bootstrapping (opening their own business without external support/external capital), is funding its development from the internal cash turnover and extremely cautious in spending [18, p. 254].	2012	Guy Kawasaki, venture capitalist
A start-up is a business idea that has minimal traction. A founder has to be a «jack of all trades» and able to pivot with an evolving idea. A start-up has minimal structure and a lot of passion. The aim is to gain more market share and build a product that is perfect [12].	2013	Daniel Roubichaund, founder of PasswordBox

For better understanding the nature of start-ups it is necessary to highlight the differences between innovative enterprises and start-ups. Firstly, start-up is a company created for quick growth. It means that not all companies established from «scratch» can be called «start-ups». *Field of activity, technologies, methods and source of investments, final product are of no importance, growth is the basic and main difference, and everything which is connected with notion «start-up» is first of all associated with growth.* Growth is a determining factor for making decisions. Secondly, start-ups have other purpose in contrast to small and medium-sized enterprises. Start-up has to make product that will certainly be demanded on the world market for its quick growth. Quick growth means:

a) Production of what is demanded by a great number;

b) Possibility to serve all clients regardless of distance, time etc.

The first condition means that idea assumed as a basis of start-up has to provide for wide scale sale. Rate of such scale may vary, but format of start-up in general isn`t suitable for production and promotion of any highly specialized idea or product. Moreover, the source of financing start-up companies greatly depend on mass market.

The second condition means that goods have to be flexible and provide for overall physical logistics, possibility for licensing or distribution through on-line markets and shops (via the Internet). Both conditions have to be simultaneously agreed and satisfied.

One more difference of successful start-up founders is that they are able to answer various questions inherently: specific combination of technological literacy and skills with ability timely and properly solve wide range of tasks. Idea that was «bad» yestrday can be brilliant today just because business branch and sphere change too fast and with them changes demand and appear new problems. The same was with Google: Larry Page and Sergey Brin wanted to conduct quick and all available search on the Internet. Unlike most of specialists they had enough competence and skills to assess all disadvantages of existing search technologies and offer realistic possibilities for their improvement.

In scientific literature allocates 5 stages of start-ups development: seed stage, startup stage, growth stage, expansion stage, exit stage [19]. The seed stage covers initial research and development of the idea or business concept; focused on determining its technical feasibility, market potential, and economic viability. The start-up stage covers development of product prototypes; initial market research and establishment of formal business organization. The early growth stage includes small-scale commercialization and growth, also development of pillars for scalability of business. Finally, the expansion stage of business covers substantial growth in scale and market impact of business.

The figure 1 presents a typical innovative enterprise, its cash flow and the most available or suitable sources of finance according to stages at which it is. The cash flow reflects a form of «J-curve», with an initial drop at the seed stage (known as the «Valley of Death»), connected with

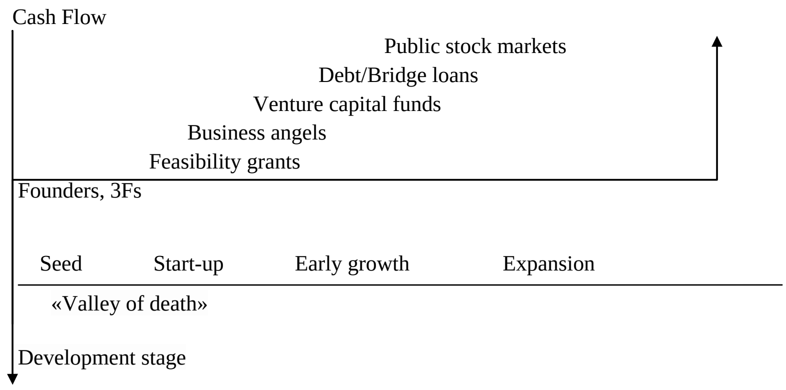

Figure 1. Development Stages, Cash Flow and Sources of Finance [20, p. 4]

financial resources that were spent on the proof of business concept.

If business emerges from the «valley» and becomes established, the cash flow turns positive and business gradually generates market turnovers and moves to the early-growth and expansion stages. In these stages financial resources needed by business are significantly larger [20, p. 3-4].

Taking into account great risks and uncertainty in terms of technology and market, access to finance is a key factor in creation, survival and expansion of start-up companies. Therefore, start-ups support requires the involvement of external capital, usually in form of direct investments. There are such forms of direct financing start-ups: founders and 3Fs, grants, Business angels, venture capital funds, debt loans and public stock markets. There are 3 main types of financing start-ups: grants or government support, capital contributions and debt.

Most of resources used for founding and launching these companies come from personal assets of «the three Fs»: friends, family and fools, in addition to contribution of founder. These personal contributions generally cover from 40% to 70% of the total investment and are acquired through personal networking, often for relatively small amounts [13, p. 51]. The main way of financing at the initial stage is bootstrapping. This term describes creative and unusual methods of searching money to minimize financing needs. It can be usage of own credit cards or mortgage lending to finance own business development, usage for such needs own apartment, cottage house or garage [19].

Grants are provided by National and regional government agencies in form of non-repayable contributions. Government support covers feasibility studies, proofs of concept, development of business plans and official procedures to start a new business. The contributions of state are essential in the seed and start-up stages.

Bank loan is one of the most important sources of finance, both in the early and expansion stages of start-up development, aside from initial capital provided by founder. In the United States, bank loan represents from 15% to 30% of initial funding for high-growth, knowledge-intensive start-ups. In general, start-ups rely less on bank loan because banks are hesitant to offer credit for creation of a new risky innovative company [13, p. 50].

The most common source of direct investments is venture capitalists and so called Business angels. It is difficult to strictly distinguish them, but there are some important differences. Business angels are private bodies or private bodies unions, while venture capitalists act through special venture companies that attract funds of the third parties. In other words, business angels invest own funds, at the same time venture capitalists – funds of the others. The third important difference is in the size of investments – business angels invest lower amounts in comparison with venture capitalists. Typical amount of investments from private bodies is from 25$ to 250$ thousands, while venture funds often make up a few millions of dollars. The term «gap in funding» refers to investment amount that is unbearable for private investors and is too small for venture funds. The fact is that venture funds greatly suffer from expenses connected with investment risk assessment and their application monitoring. So investments that are lower than some definite threshold amount are not practically interesting for them. Companies from bootstrapping are often in this investment gap. As a result companies-beginners can be cut off from all financial resources due to a high degree of risk that makes loan attraction almost impossible. Although venture capitalists receive much attention of mass media, every year business angels are financing 30-40 times more projects around the world than venture funds [19]. Angel investors play a key role in advising and helping entrepreneur to improve quality of investment proposal (design, business model, presentation). These investors operate on the middle ground between informal funding from founders, friends or family and formal venture-capital funding [13, p. 51].

Public policy and private sector activity plays an important role in support and development start-up companies at the stages of creation and expansion. However, each country has its own criteria to define start-up (size, profits, R&D expenditures, age) (table 3).

For instance in Italy are used such criteria of identification of innovative start-ups:

– new or established for no longer than 48 months;

– reside or be subject to taxation in Italy;

– turnover lower than 5 million € (6, 4 million $);

– it does not distribute profit;

– its core business consists of innovative goods or services of significant technological value;

– it does not originate from a merger, demerger or divestment process;

– 15% of its costs are related to R&D;

– at least 1/3 of the team is made up of people

Table 3

The main criteria of identification start-up companies [21]

Indicator	Characteristic
Age	is less than 1 year old.
Size	have less than 100 employees
Office	do not have actual office.
Focus	focus on learning, discovery and crazy growth instead of profit.
Output	expected output is a new product, a new technology or a solution for existing challenges in the market.
Members	majority of the members (more than 50%) are entrepreneurs.
Culture	have a «startup culture».
Business model	is designed to search for a repeatable and scalable business model.

who either hold a doctor degree or are doctor candidates in Italy or abroad or have conducted research for at least 3 years or at least 2/3 of the team is made up of people holding a master`s degree [22, c. 6-7].

In Ireland a high potential start-up is defined on the basis of such criteria:

• introducing a new or innovative product or service to international markets;

• involved in manufacturing or internationally traded services.

• capable of creating 10 jobs in Ireland and realising €1 million in sales within three to four years of starting up.

• led by an experienced management team.

• headquartered and controlled in Ireland.

• less than five years old from the date of your company's registration [23].

In scientific literature the existing start-ups are divided into four types: (1) new technologybased firms (NTBFs), (2) opportunity-based start-ups by employees, (3) copycat start-ups, and (4) start-ups to escape unemployment (entrepreneurs out of necessity) [6, p. 5-6].

1. New technology based firms are new firms with business ideas based on new technologies – i.e. new procedures for producing goods and services. Prominent examples of this type of firm are founded around 2000, such as Google, Ebay and Amazon, whose businesses are based on Internet technology. NTBFs often arise in environment of universities and research labs, and are characterised high knowledge intensity.

2. Opportunity-based start-ups are new firms launched by people who want to exploit a market opportunity. Many of these start-up founders are former employees who were unable to exploit new business ideas with their previous employers. An example of this start –up type is SAP AG, whose founders identified a gap in the market for data processing and developed a software that enables businesses to perform accounting processes internally on mainframe computers.

3. Copycat start-ups are primarily motivated by a desire to be self-employed, and involve mimicking business ideas of existing firms. They are typically not based on any new technology, and they do not try to exploit a market opportunity. Instead, they are formed to serve their founders. Copycat start-ups are often found in sectors where costs of starting business are very low, e.g. trading, restaurants and other consumer-oriented services. «Copycat start-up» is not an established term in literature.

4. Start-ups are driven by unemployment and other forms of necessity, usually established as a way of generating income for entrepreneur. Their founders are often unable to find paid work, and therefore they open businesses to earn a living. They are often called «necessity start-ups» because they are a response to lack of other opportunities. Businesses that are formed as escape from unemployment are usually established in sectors with low entry barriers and low qualification requirements.

It is appropriate to consider the classification of Internet start-ups as they often work in field of information technology. According to Marmer, Hermann and Berman (2011), who conducted the analysis on more than 650 web start-ups across the USA (Silicon Valley) Internet start-up companies are divided into three basic types.

The first type of start-up companies is «The Automizer» focused on customers, attracting customers who show interest in a product, fast performance, common automatization processes that were previously performed manually, a large market, struggle on existing market, use of new technologies, strong technology-oriented developers, etc. The examples of Automizer companies are: Google, Dropbox, Eventbrite, Slideshare, Mint, Pandora, Kickstarter, Zynga, Playdom, Box.net, etc. A subtype of this type is called «The Social Transformer» characterized by existence of a critical mass, increased subscriber growth and networking. These start-ups typically create new ways to connect people and therefore need more capital. Business people and teams meet more frequently in this type of start-up than in an IT-oriented one. The examples of such subtype are: Ebay, OkCupid, Skype, Paypal, LinkedIn, Facebook, Twitter, Foursquare, Youtube, Dailybooth, etc.

Another type of start-up companies is «The Integrator» specified by high security, early profit, targeting small and medium-sized enterprises as well as smaller markets, high probability that it will keep small teams even after scaling (growth and expansion), etc. For instance such companies as: PBworks, Uservoice, Kissmetrics, Mixpanel, Dimdim, HubSpot, Zendesk, Flowtown, etc.

The third type is called «The Challenger» characterized by very high sales, as well as customer dependence, complex and rigid markets, repeatable sales processes, more time in relation to the first and second type, in need of more capital, business-oriented teams. For example: Oracle, Salesforce, MySQL, Redhat, Jive, Ariba, Rapleaf, Involver, BazaarVoice, WorkDay, Netsuite, Passkey, Yammer, etc. [24, p. 7-9].

Conclusions. According to results of research, start-up companies are a new form of innovative entrepreneurship. Their essence underlies in a rapid growth through implementation of new ideas and inventions on new markets. In economy start-ups are the most dynamic companies that provide operational transformation of scientific results into innovative products and creating jobs.

Government support to establishment and development start-ups is implemented in appropriate programs. Companies that clearly meet defined criteria at national level become participants of these programs. Given the declared Ukraine`s strategic course towards European integration, it is important to analyze fully the instruments of state support start-up companies that apply in the EU for reproduction of best practices. At the same time should be given special attention to establishing an appropriate conceptual-categorical apparatus, which in Ukraine is not resolved at legislative level.

Creation of favourable conditions for involvement of business in innovation and organization on the basis of domestic developments of new companies will contribute to the rise of national industry and increase its competitiveness and build up the potential of entering new EU markets.

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