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# IMPLEMENTATION OF A PLATFORM SOLUTION FOR PROJECT MANAGEMENT AUTOMATION IN THE ENTREPRENEURIAL ECOSYSTEM OF RUSSIAN UNIVERSITIES

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**Abstract.** One of the most promising areas for ensuring the technological sovereignty of the Russian Federation is involvement of university students and young researchers in technological entrepreneurship. A startup studio – a startup factory that focuses on the mass production of new high-tech companies – seems to be an effective direction for increasing the "convertibility" of business ideas based on HEI developments into an operating business. This research examines an "AS-IS" architecture model of a university startup studio for the first post-launch year as a part of the Russian federal project. In the "TO-BE" model, the authors show that the implementation of a project management platform across the net of Russian university startup studios may increase the potential of transferring technologies form universities to a much vaster application in business.

**Keywords:** technological entrepreneurship, startup studio, university entrepreneurship, enterprise architecture

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# ВНЕДРЕНИЕ ПЛАТФОРМЕННОГО РЕШЕНИЯ ПО АВТОМАТИЗАЦИИ УПРАВЛЕНИЯ ПРОЕКТАМИ В ПРЕДПРИНИМАТЕЛЬСКОЙ ЭКОСИСТЕМЕ РОССИЙСКИХ ВУЗОВ

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**Аннотация.** Вовлечение студентов и молодых сотрудников высших учебных и научных центов в технологическое предпринимательство является одним из многообещающих направлений обеспечения технологического суверенитета РФ. Стартап-студия, как фабрика стартапов, ориентированная на массовое производство новых высокотехнологических компаний представляется перспективным направлением повышения «конвертируемости» бизнес-идей в работающий бизнес. В данной статье анализируется текущая архитектурная модель университетской стартап-студии первого года реализации ФП ПУТП. В целевой архитектурной модели демонстрируется, что внедрение платформы управления проектами во всей сети университетских стартап-студий федерального проекта сможет повысить эффективность трансфера университетских наработок и технологий в коммерчески успешные компании.

**Ключевые слова:** технологическое предпринимательство, стартап-студия, университетское предпринимательство, архитектура предприятия

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## Introduction

Universities, their campuses, and associated facilities represent the main source of innovation in the world transforming organized science and venture capital into business. The Russian Federation has a long way to go in this direction. Leading university centres are increasingly focused on training a new class of actors for modern technological markets—technological entrepreneurs. Ideologists of the Russian National Technological Initiative expect that university ecosystems are well capable of removing the barrier that prevents Russian scientists from entering the unfamiliar and for now incomprehensible arena of entrepreneurship (Ivanov, 2015).

Startup studios, or venture studios/startup factories, make one of the globally well-known tools for entrepreneurship development. A startup studio contributes to the development of technological entrepreneurship, via focusing on rapid testing of business ideas and mass "production" of new companies. Despite the fact that the first startup studio was created back in 1984, even before the first accelerator program, their rapid growth has occurred over the last 15-17 years. In Russian practice, this format has been widespread among universities since 2022: within the framework of the federal project "Platform of University Technological Entrepreneurship." In 2022 the Government of the Russian Federation launched a federal project "University platform of technological entrepreneurship. According to the Deputy Prime Minister Dmitry Chernyshenko, "The project was designed to encourage students to create their own

businesses and attract investors."

A startup is a company with an ultra-short operating history, founded by one person or a group of entrepreneurs who go on to develop a new high-demand product or service. In other words, a startup is an innovative business plan that aspires to scale very quickly. This research focuses on the features of a startup studio business model and its architecture.

**Materials and Methods**

Methodologically, the research centers around the analysis of open sources. The main methods include a literature review of "university entrepreneurship" and scientific studies published in Web of Science and ResearchGate, as well as Russian government documents and technology initiatives. The majority of the examined papers were published from 2007 to 2024 by foreign experts from USA and Europe. Domestic studies on the technology transfer were also considered. A case study approach was invited to observe the processes of a Russian medical startup studio.

In order to visualize the existing processes, model the enterprise architecture, and identify gaps between the current state and target architectural model, the authors used ArchiMate and TOGAF. As a result, it became possible to assess the current processes and highlight excessive steps and bottlenecks that impede the optimization of project management.

The majority of studies focus on aspects of identifying the position of the university in the infrastructure supporting technological entrepreneurship (Zayakina, 2023; Mutalimov, 2021; Bolchek, 2023), the definition of technological entrepreneurship tasks (Belskikh, 2022; Zobnina, 2019), and evaluation methods for technological entrepreneurship (Polozkov, 2022).

The Strategy for Scientific and Technological Development of the Russian Federation defines directions that will allow solving large-scale tasks to modernize the Russian economy and its transfer to innovations, based on new knowledge and technologies. This task proves to be highly important due to the fact that their application sets new requirements for the qualification of specialists and the system of personnel training in general (Konstantinov, 2022; Polbitsyn, 2021).

According to the "National Technological Initiative" federal project, it is planned to implement a package of measures to improve the quality of education and training. What is more, the project specifies the application of a package of measures aimed at providing highly qualified personnel for high-performance export-oriented sectors of the Russian economy (Repina, 2022; Osiobe, 2020). Another important task is to unlock the entrepreneurial potential of young people and train professionals specifically for technological entrepreneurship (Sibirskaya, 2022; Yashin, 2019).

The "Platform of University Technological Entrepreneurship" federal project (PUTE) is aimed at solving these problems. Its goal is to shape a cadre of serial entrepreneurs, people who massively launch new businesses. The key objective of the project is to bring 30.000 technological entrepreneurs from universities into the economy by 2030. The main directions of the project include: mass entrepreneurial training of university students and employees; launch of university technological startups and startup projects; development of mechanisms to attract investment in university startups and projects.

By the end of 2025, the PUTE initiatives are expected to ensure the following increase:

– the number of university students and employees involved in technological entrepreneurship – 435.000 people;

– the number of university startups – 8.8000 companies;

– the volume of investment – 9.9 billion rubles.

Undoubtedly, the PUTE indicators seem to be extremely ambitious. However, in order to

achieve them, it is necessary to overcome certain problems in the relationship between the corporate sector and startups (Kovalevich, 2021; Guo, 2023).

The initiative focuses specifically on technological entrepreneurship. Unlike trade and service entrepreneurship, technological one reduces production costs. It benefits both companies, which reduce their costs, and consumers, who can obtain the goods and services they need at a lower price, subsequently leading to inflation control. With the help of new technologies, entrepreneurs are able to create new types of products that will replace old ones. The project is aimed at supporting a range of activities: creating co-working space based on universities, launching accelerator programs at universities, providing grants to students with business ideas, creating university startup studios, and paying cashback to business angels who invest in student projects.

The startup studio is a "startup factory" where students and university employees are working on projects with effective support from the startup studio staff and in a safe environment partially protected from financial risks. Students and employees are offered an approach to working with technology startups that minimizes risks and maximizes human capital.

A startup studio is basically a funder that takes care of routine operations at all stages of the product and company life cycle, from idea to product scaling. The startup studio makes the decision to support (or not) a particular startup. The startup funding tactic involves the use of a tranche-based funding mechanism within a stage of the startup's lifecycle. Based on the results of each stage, a decision on further financing is made.

The startup studio's staff and its partners implement the following set of services:

– Generation of startup ideas startups

– Testing business models with the involvement of technological entrepreneurs' competencies;

– Expertise in startup projects;

– Investing in startups, creating legal entities, and solving operational issues;

– Marketing and analytical research;

– Development and preparation of technological and organizational processes to ensure production and sales;

– Product branding;

– Attracting investors;

– Public relations and product promotion;

– Accounting services for established legal entities;

– Legal services, etc.

Supporting projects at different stages allows startup studios to balance the portfolios, diversify risks, and ensure financial stability. Thus, startup studios created within PUTE ensure the involvement of students and young people in technological entrepreneurship and stimulate an increase in the number of technological startups, identify, support, and develop promising university projects and scientific breakthroughs.

The architecture of the PUTE startup studio for the post-launch year invites many standard programs (Figure 1).

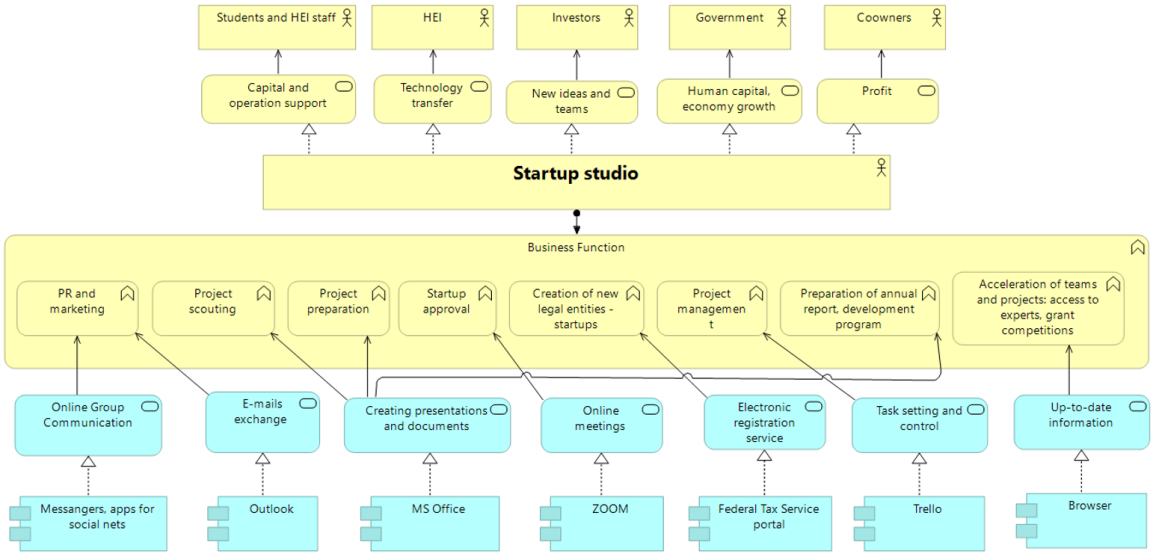


Fig. 1. “AS IS” architectural model of a startup studio.

**Results and Discussion**

The target enterprise architecture model involves replacing a multitude of disparate automation tools with a single platform that provides project management, online meetings, and supports unified information among a network of university startup studios (Figure 2) (Buckl, Krell, Schweda, 2020).

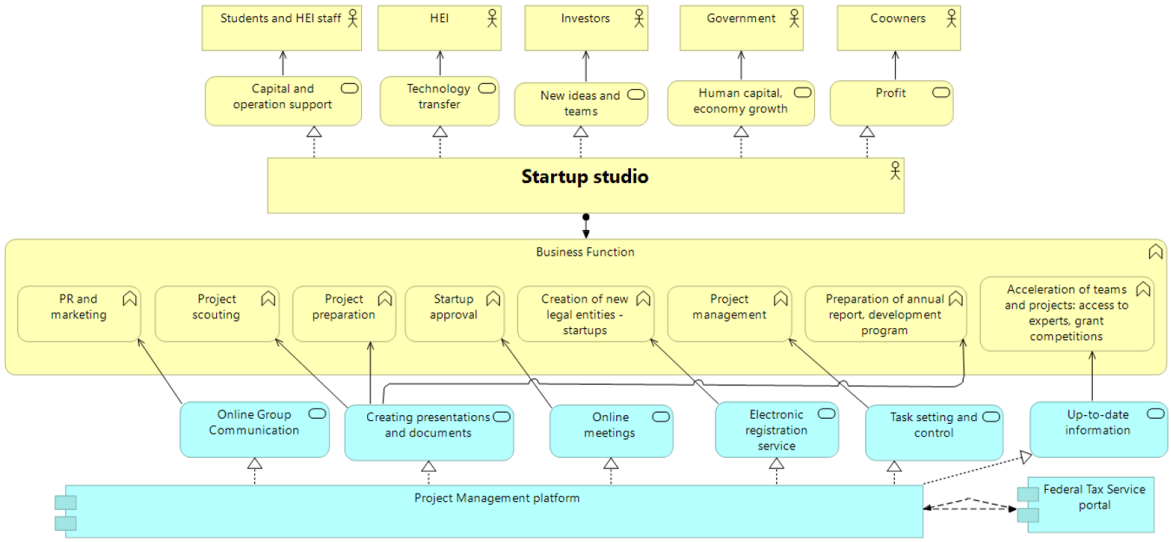


Fig. 1. “TO BE” architectural model of a startup studio.

With the advancement of information technology, project management activities are increasingly undergoing automation. Automated project management systems allow project managers to promptly obtain the necessary information about the project stages, control processes and performers. Automation of project management is the introduction of information systems into project activities that optimize the management tasks for project managers.

According to (Kostalova, Tetrevova, Svedik, 2015), “project management information system is a set of organizational and technological, methodological, technical, software, and information tools that support and improve the effectiveness of project management.” Such systems

are used at each stage of project realization and allow making management more effective.

Modern project management information systems perform a number of highly important functions, primarily they:

– draw up the project work plan;
– plan the critical path method;
– plan resources;
– control the project implementation (Safonova, 2020).

There is also a number of necessary requirements for the functionality of information systems:

– automation of processes;
– document management capability;
– reporting tools;
– project time management;
– project cost management;
– unified information space (Safonova, 2020).

Accordimg to the authors of "Support of Project Management Methods by Project Management Information System", the probability of successful project implementation increases when project management methods are invited. In its turn, project management is greatly simplified through the use of information systems thus reducing time costs (Kostalova, 2015; Filippov, 2023).

**Conclusion**

The significance of this research rests on the fact that entrepreneurship is a key factor in economic growth and development, where universities play a crucial role in fostering entrepreneurial activities. The startup studio business model is a new and effective management model for creating and developing commercial innovative projects. There is a variety of startup studios that are created at large "global" corporations to ensure effective implementation of new product solutions in their divisions or allocation of innovative ideas to spin-offs, giving the later the opportunity to be flexible and independent from the red tape. Independent investors that look for promising suggestions and teams, who are ready to provide expert business support, can also create startup studios. Startup studios combine the format of funds, as they have an investment budget, develop programs for "growing up" teams and back-office functions, taking over the routine operations of a startup team. Unlike venture capitalists, startup studios invest not only money but also managerial and human resources.

The target architecture of the startup studio proposed in the current research is based on a project management platform primarily focused on efficient and rapid implementation and dissemination of innovations. The platform should also be open to external project teams—startups. At the same time, it is a heterogeneous solution, i.e., they can include several platforms, though, integrated through a unified web platform.

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