

## EUROPEAN AND US EXPERIENCES IN MANAGING INNOVATION IN ENTERPRISES.

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**Abstract:** This article presents a comparative analysis of the theoretical underpinnings of innovation management, drawing on the practical experiences of the European Union and the United States. Initially, the research explores the conceptual framework of innovation management, examining contemporary methodological approaches and global statistical patterns. In the United States, the innovation ecosystem is distinguished by robust collaboration between the public and private sectors, active participation of venture capital, and rapid technological advancement. In contrast, the European Union emphasises long-term strategic planning, sustainability, and socially oriented innovation models. Large-scale initiatives such as Horizon Europe and Digital Europe play a pivotal role in fostering innovation across the continent. The study systematically compares both regions, identifying key similarities and divergences, and substantiates its findings with statistical indicators and official data sources.

**Keywords:** Innovation management, Horizon Europe, ARPA, NSF, US innovation model, European Union strategy, SMEs, green technologies, venture capital, digital transformation, Industrie 4.0.

idea, technology, product, or service within an organisation or country. Innovation is not only understood as technological innovation, but also as social, managerial, marketing, and process innovation.

The theory of innovation management was developed by scientists such as Peter Drucker, Joseph Schumpeter, and Clayton Christensen. In particular, Schumpeter's concept of "creative destruction" argues that through innovation, old systems disappear and new, more efficient systems emerge in their place. Drucker sees innovation as the main task of business.

Today, innovation management is closely related to strategic management, human capital, ICT (information and communication technologies), external cooperation and legislation. Effective innovation management ensures the sustainable development of an organisation, especially in a competitive market environment.

According to the World Bank's 2023 report, investment in innovation is growing rapidly globally. For example, while in 2010, global R&D spending accounted for 1.5% of GDP, by 2023 this figure had reached 2.4%.

According to the 2023 Global Innovation Index (GII) :

- Swiss
- Sweden
- USA
- Great Britain
- Singapore
- Uzbekistan is ranked 82nd.<sup>1</sup>

These statistics show that innovation management is a pressing issue not only in developed countries but also in developing countries.

The following key international regulatory documents play an important role in managing innovation at the global level :

- 1) TRIPS Agreement (within the WTO): Encourages innovation by protecting intellectual property rights, patents, and copyrights.<sup>2</sup>
- 2) WIPO (World Intellectual Property Organization): Regulates the international patenting of technological innovations.

These documents are a necessary basis for protecting innovative products in transnational trade, promoting technology transfer and investment .

Uzbek legislation: in recent years, Uzbekistan has brought innovation to the level of state policy:

- 1) 2018 — The Innovative Development Strategy was approved by Presidential Decree No. PF-5544.
- 2) 2020 - The Law "On Innovative Activities " was adopted.
- 3) State programs for the development of science and innovation have been expanded.

This legal framework has legally strengthened innovative partnerships between the public and private sectors.

<sup>1</sup> <https://www.wipo.int/en/web/global-innovation-index/2023/index>

<sup>2</sup> [https://www.wto.org/english/tratop\\_e/trips\\_e/innovationpolicytrips\\_e.htm](https://www.wto.org/english/tratop_e/trips_e/innovationpolicytrips_e.htm)

An article published by Outpost Eurasia notes that the volume of innovations in Uzbekistan increased 12.1 times from 2013 to 2023, from 4.6 trillion soums to 55.7 trillion soums. The efficiency of investments in innovations has also increased, from 1 soum of investment in 2013 to 5.3 soums in 2023.<sup>3</sup>

The US innovation management system is one of the most advanced and complex in the world. It consists of the following main components:

1) The role of the federal government: The US government plays a key role in supporting innovation. For example, the CHIPS and Science Act of 2022 provided significant investment in the semiconductor industry, which is aimed at ensuring technological independence.

2) Private sector leadership: Companies like Google, Apple, Amazon, and Microsoft are leading the way in innovation. They are making significant strides in artificial intelligence, cloud computing, biotechnology, and other areas.

3) Academic and scientific research: Universities and research centres in the US, such as MIT, Stanford, and Harvard, play a significant role in innovative research and the development of startups.

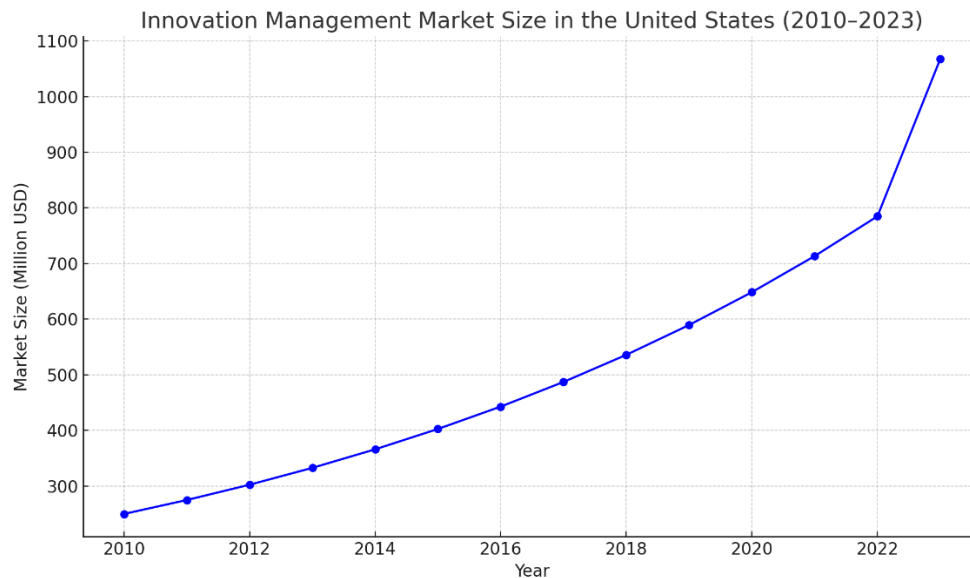
4) Financing and venture capital: The venture capital market in the United States is developed and is an important source of financing for startups and innovative projects.

The innovation management market in the United States was valued at \$1,067.52 million in 2023. It is projected to reach \$2,511.82 million by 2032, at a compound annual growth rate (CAGR) of 10.1%. This growth is primarily driven by the rapid adoption of artificial intelligence and automation technologies.<sup>4</sup>

Although the US innovation management system is developed, there are some problems, which include: The challenges of achieving innovation goals, according to a 2023 NTT DATA study, only 21% of company leaders reported that they had fully achieved their innovation goals, and the problems with the patent system, the US patent system is complex and expensive, which can be a barrier for small and medium-sized businesses.

<sup>3</sup> <https://outposteurasia.com/insights/tpost/sp1clf2cj1-a-decade-of-progress-the-evolution-of-in>

<sup>4</sup> <https://straitresearch.com/report/innovation-management-market/united-states>



The market size from 2010 to 2022 has a compound annual growth rate (CAGR) of approximately 10.1%.<sup>5</sup>

The innovation management system in the European Union (EU) is based on a wide range of strategies, grants and support programs. According to data from 2022, 51% of enterprises located in the EU carried out innovative activities, which include product, process, marketing or organisational innovations.

EU countries have different indicators of innovation activity. According to the 2024 Innovation Scoreboard :

- Switzerland: 138.4 points (1st place )
- Sweden: 128.6 points (2nd place )
- Finland: 123.1 points (3rd place )
- Ukraine: 32.5 points (one of the lowest scores ).

This ranking is based on science, patents, R&D investments, and digital infrastructure.<sup>6</sup>

To provide a more in-depth analysis of the innovation performance of European Union (EU) enterprises, Eurostat has developed the "Innovation Profiles" methodology. This

<sup>5</sup> <https://straitsresearch.com/report/innovation-management-market/united-states>

<sup>6</sup> <https://www.statista.com/statistics/1252589/summary-innovation-score-europe/>

approach divides enterprises into seven main categories based on their innovation activity and potential:

- 1) Innovatively active enterprises;
- 2) Enterprises that are innovatively active but have not implemented the innovation;
- 3) Enterprises without innovative activity, but which have introduced innovation;
- 4) Enterprises without innovative activities and without introducing innovation;
- 5) Enterprises with innovative potential;
- 6) Enterprises without innovative potential ;
- 7) Enterprises with uncertain status.

This profiling helps to assess the level and potential of enterprises to engage in innovative activities. This approach also serves as a basis for policymakers to develop effective strategies to stimulate innovation.<sup>7</sup>

Research conducted by the Organisation for Economic Cooperation and Development (OECD) sheds light on the state of innovation activity of enterprises in European countries. The following key indicators were identified through the OECD's "Business Innovation Statistics and Indicators" database :

- Share of innovatively active enterprises: In European OECD member countries, more than 51% of enterprises are engaged in innovative activities.
- Innovation costs: The funds allocated by enterprises to innovation activities are mainly directed towards the development of new products and process improvements.
- Innovation collaboration: Many companies implement innovation projects in collaboration with universities, research institutes, and other companies.
- Barriers to innovation: Financial constraints, lack of skilled personnel, and market uncertainty were cited as key barriers for businesses.

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Each EU member state has developed its national innovation strategy. For example :

Germany – “Industrie 4.0”: This initiative aims to prepare for the fourth industrial revolution. The focus is on artificial intelligence, automation, the Internet of Things (IoT)

<sup>7</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Innovation\\_profiles\\_of\\_enterprises\\_-\\_methodology](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Innovation_profiles_of_enterprises_-_methodology)

and digital manufacturing systems. The German government adopted this strategy in 2011, and as of 2023, more than 100 projects have been funded under this initiative.<sup>8</sup>

One of the EU-level innovation programs is Horizon Europe – the largest EU science and innovation development program with a budget of €95.5 billion for 2021-2027. Its priority areas are: scientific research, deep technologies, environmental protection, and health innovation.<sup>9</sup> In addition, Erasmus+ is aimed at developing new skills and digital technologies. 26.2 billion euros have been allocated for 2021-2027.<sup>10</sup>

Europe and the United States are the two leading schools of innovation management in the world. While they employ largely similar strategies, differences in approach, financial scale, private sector involvement, and regulatory systems set them apart. Similarities between the two schools include :

**Strategic government support:** In both regions, innovation has been recognised as a strategic priority by governments. For example, in Europe, Horizon Europe has allocated €95.5 billion for 2021–2027, while in the US, the National Science Foundation (NSF) has allocated \$10.5 billion in funding for innovative research in 2023.

**Focus on green technologies and digitalisation:** Both systems place a strong emphasis on environmental sustainability and digital transformation. For example, in the US, \$369 billion was allocated for green technologies through the Inflation Reduction Act, while in Europe, this figure will reach 1 trillion euros through the Green Deal.<sup>11</sup>

**Supporting small and medium-sized businesses:** In both regions, SMEs are central to innovation processes. In the EU, SMEs account for 99% of innovative enterprises, while in the US, they create 64% of all new jobs.

The differences between these are:

**Sources of funding:** The US has a very strong private sector and venture capital market. For example, the US attracted over 50% of global venture capital investment in 2022. In Europe, this figure is around 19%, which shows a large gap in the level of financial independence.

<sup>8</sup> <https://www.plattform-i40.de/IP/Navigation/DE/Home/home.html>

<sup>9</sup> [https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-2020\\_en](https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-2020_en)

<sup>10</sup> <https://erasmus-plus.ec.europa.eu/>

<sup>11</sup> [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en)



Organisational approach: The US approaches innovation primarily from a market-driven perspective, based on demand and profit. In other words, the US model is based on a “bottom-up” approach. In Europe, it is more “top-down” – that is, on strategic directions set by governments.

Centralisation in science and research: In the US, fundamental research is funded primarily through ARPA (Advanced Research Projects Agency) and NSF. This is important for long-term success. In Europe, research is often carried out in collaboration with industry, i.e., it is focused on practical results.

on intellectual property and technological security, which can sometimes hinder the rapid implementation of innovative projects. The US, on the other hand, has a relatively flexible system in this regard.

Effective innovation management is one of the key factors ensuring sustainable growth and competitiveness in modern economies. The experience of Europe and the United States shows that public policy, private sector participation and international cooperation play an important role in innovation management. While the United States is leading innovation management through private investment and rapid technological implementation mechanisms, Europe is based on long-term strategies through socio-economic sustainability, an environmental approach and comprehensive programs. By taking elements from both systems that are suitable for Uzbek economic policy, it is possible to create an effective national model of innovative development. In this regard, strengthening cooperation between the public and private sectors, encouraging SMEs, and actively participating in global programs are urgent tasks.

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