DOMESTIC AND INTERNATIONAL CONTEXT AND REQUIREMENTS FOR THE IMPROVEMENT OF LEGAL REGULATIONS ON INNOVATION IN VIETNAM

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Abstract:

Innovation is recognized as a key driver of economic growth and sustainable development in countries worldwide, including Vietnam. However, the current legal system governing innovation still has many shortcomings and has not kept pace with practical developments or international norms. This article assesses the current state, identifies legal gaps, and proposes solutions to improve the legal framework for innovation in Vietnam.

The research findings indicate that enhancing innovation-related legislation in Vietnam requires a comprehensive, synchronized, and flexible business-centric approach, aligned with international standards. The policy recommendations focus on amending sector-specific laws, improving financial mechanisms, developing high-quality human resources, and renewing state management of innovation. These efforts aim to create a favourable legal environment, strongly promote innovation activities, enhance national competitiveness, and meet the demands of international economic integration.

Keywords: *Innovation; Innovation ecosystem; Regulations.*

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1. Introduction

In the context of globalization and the Fourth Industrial Revolution, innovation has become a key factor determining the competitiveness and sustainable development of each country. Recognizing this importance, Vietnam has identified science, technology, and innovation (ST&I) as one of the important strategic breakthroughs to lead the country toward rapid and sustainable development. Many policies and guidelines have been issued to promote innovation activities, considering them the main driving force for economic growth, creating breakthroughs in productivity, quality, and efficiency.

However, in practice, the current legal framework on innovation in Vietnam still has many shortcomings, not really keeping up with the demands of development practice and international best practices. Although Vietnam has set ambitious goals for innovation, such as the goal that "Science, technology, innovation, and digital transformation must contribute at least 5% to the GDP growth target of 10% per

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year"[2] and bring Vietnam into the group of upper-middle-income countries, the implementation of policies and law enforcement is slow, inconsistent, and ineffective.

This creates a significant "implementation gap" between policy aspirations and actual results, hindering the full realization of the country's innovation potential. Therefore, systematically studying the domestic and international context, thereby identifying requirements and proposing solutions to improve legal regulations on innovation, is of great significance in providing a scientific and practical basis, contributing to building a favourable, transparent, and effective legal environment, truly promoting innovation and enhancing national competitiveness in the new development stage. Improving the law should not stop at completing the documents, but it must focus on establishing effective enforcement mechanisms, rigorous oversight, and comprehensive impact assessment.

2. Theoretical basis of innovation and legal regulations on innovation

2.1. The Concept of Innovation: International and Vietnamese Perspectives

The Organization for Economic Co-operation and Development (OECD), in its "Oslo Manual", defines innovation as "the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new method of organization in business practices, workplace organization, or external relations" (*OECD, 2018*). This definition emphasizes that innovation is not limited to high-tech research and development (R&D) but also encompasses non-technological innovation, innovation in the service sector, and business model innovation (*OECD, 2009*). A core element of the OECD definition is "implementation": an invention only becomes an innovation when it is applied in practice or made available to users.

The World Bank also particularly emphasizes the role of innovative startups, defining them as knowledge-based or technology-based enterprises that develop new products or services for domestic or international markets, and considers them an important driving force for economic development, especially in developing countries like Vietnam (*World Bank, 2024*).

Some national legal systems also provide legal definitions of innovation following a similar approach. For example, Federal Law No. 254-FZ of July 21, 2011, of the Russian Federation stipulates that "Innovation is a new or significantly improved product or process (goods, services) put into practical use. The Law on Innovation Activities of Serbia and the Law on Innovation of the Philippines both agree that innovation is the application of new or significantly improved products, processes, or services to create added value, including forms of product, process, organizational, and marketing innovation.

In Vietnam, the Law on Science and Technology 2013 defines "innovation" as "the creation and application of achievements, technical solutions, technologies, and

[2] https://vjst.vn/vn/tin-tuc/18216/doi-moi-sang-tao--dong-luc-moi-cho-tang-truong-kinh-te-viet-nam.aspx

management solutions to improve the efficiency of socio-economic development and improve productivity, quality, and added value of products and goods". This definition focuses on the "creation" and "application" of solutions, which is relatively close to the concept of "invention" and the initial application process.

However, in recent years, the approach to innovation in Vietnam has changed significantly. The draft Law on Science, Technology, and Innovation under construction has placed innovation on par with science and technology, representing an important step forward in state management thinking, aiming to bring innovation into life, to create competitiveness, and to promote economic growth.

The approach to the international perspective reflects the trend of expanding the central role of enterprises and emphasizing the application factor. This requires the legal framework to keep up with reality, not only focusing on protecting inventions but also creating a flexible legal corridor that encourages controlled risk-taking and provides comprehensive support for all actors participating in the innovation chain - from researchers to enterprises and investors.

2.2. Concept, role, and constituent elements of the legal framework for innovation

The legal framework on innovation is understood as a system of legal regulations, policies, and institutions that comprehensively regulate all aspects of science, technology, and innovation activities in a country (*Silva & Lima, 2024*). This is not an independent sector-specific field of law, but it is the result of the intersection of many different legal fields. This legal framework takes on four main roles:

- *Protecting creative achievements:* Through intellectual property (IP) regulations, the law protects the legitimate rights and interests of innovators, encouraging them to continue investing in innovation activities.
- *Encouraging investment and risk-taking:* Preferential policies on tax, credit, R&D funding, and risk sharing help mobilize resources and promote investment in inherently high-risk activities such as innovation;
- *Creating a competitive and cooperative environment:* The law supports the formation of a healthy competitive environment where new ideas are encouraged; At the same time, it promotes cooperation between entities in the innovation system, including public-private partnerships and linkages between research institutes, universities, and enterprises.
- *Orientation and regulation of innovation activities:* Laws help orient innovation activities in line with the national development strategy, and, at the same time, regulate these activities to ensure public interests and sustainable development.

A comprehensive legal framework for innovation usually includes the following elements:

- *Intellectual property law:* Protection of patents, trademarks, industrial designs, copyrights, trade secrets, etc.

- *Policies and laws on R&D funding and investment incentives for innovation:* including regulations on science and technology development funds, tax incentives, and credits for R&D and innovation projects;
- *Regulations on the establishment and operation of innovation entities, including:* science and technology organizations, science and technology enterprises, and innovation startups. Creating conditions for the formation and development of core entities in innovation and the creative startup ecosystem;
- *Laws on technology transfer:* Creating conditions for the transfer and application of research results into production and life;
- A system of standards, technical regulations/norms, and product quality assurance: Ensuring the quality and safety of innovative products;
- *Dispute resolution mechanism:* especially regulations on dispute resolution related to IP and innovation results;
- *Regulations on public-private partnership and international cooperation* in the field of innovation;
- *Controlled sandbox mechanism*: Allows testing of new technologies or new business models in a flexible, controlled legal environment.

The effectiveness of the legal framework for innovation depends on the level of synchronization, compatibility, and coordination between the constituent legal fields. For example, tax incentives for R&D activities will only be effective when clearly stipulated in the Tax Law and accompanied by simple, transparent, and feasible administrative procedures. Reality in Vietnam shows that the lack of synchronization between related legal documents is a major obstacle to the effective implementation of policies to promote innovation. Therefore, perfecting the legal framework for innovation requires a comprehensive, interdisciplinary approach, not just focusing on a single law such as the Law on Science, Technology, and Innovation.

In addition, it is necessary to establish an effective interdisciplinary coordination mechanism in the process of building, promulgating, and implementing laws, ensuring consistency and full support for innovation activities in practice.

3. Innovation contexts: Vietnam and international practice

3.1. Innovation landscape of Vietnam

3.1.1. Vietnam's main policies, strategies, and legal framework on innovation

In recent years, Vietnam has issued a system of policy documents, strategies, and laws to promote innovation.

The Resolution of the 13th National Party Congress continues to affirm the important role of science, technology, and innovation in socio-economic development. In particular, Resolution No. 57-NQ/TW of the Politburo dated December 22, 2024, has set out strategic directions and breakthrough solutions in

the development of science, technology, innovation, and national digital transformation. In addition, Resolution No. 68-NQ/TW of the Politburo dated May 4, 2025, also emphasized the role of the private economic sector as an important driving force in the innovation system.

The Strategy for Science, Technology, and Innovation Development to 2030 (issued together with Decision No. 569/QD-TTg dated May 11, 2022) clearly defines the goals, viewpoints, and overall solutions to promote science, technology, and innovation in the coming period.

Important legal regulations regulating innovation activities include: the Law on Science and Technology 2013, the Law on Intellectual Property (amended in 2022), the Law on Investment (amended), and guiding documents such as Decree No. 31/2021/ND-CP, the Law on Enterprises, and documents supporting SMEs and innovative startups such as Decree No. 80/2021/ND-CP, Decree No. 94/2020/ND-CP (replaced by Decree No. 97/2025/ND-CP), and Resolution No. 98/2023/QH15. In addition, the Decree on the National Innovation Center (NIC) and specific incentive policies such as Resolution No. 193/2025/QH15 and Decree No. 88/2025/ND-CP were issued to create an environment for testing and breakthroughs for new development models in science and technology, innovation, and digital transformation.

In particular, the draft Law on Science, Technology (amended) and Innovation is being developed with many important new points. The State promotes and develops the innovation system at the national, sectoral, and local scales, especially the legalization of the central role of innovation, focusing on enterprises, proposing reforms of financial mechanisms and state management in a flexible direction, accepting risks, and evaluating output efficiency.

3.1.2. Status of innovation in Vietnam: achievements, challenges, and bottlenecks

Vietnam's innovation system includes the main actors: the State, research institutes, universities, and the business community. In recent years, the central role of enterprises in innovation activities has been increasingly clearly established, while the State has gradually shifted to the facilitating, guiding, and supporting roles, and research institutes and universities have taken on the function of knowledge and human resources providers.

Vietnam's efforts in promoting innovation have brought about remarkable results. Vietnam's position on the global innovation map has improved significantly, as demonstrated by the continuous increase in the ranking of the Global Innovation Index (GII). In 2024, Vietnam will rank 44th/133 countries and economies, up 2 positions compared to 2023 (ranked 46), and maintain its 2nd position in the group of low-middle-income countries, and 10th in the Southeast Asia, East Asia, and Oceania regions *(WIPO, 2024a).* It is worth noting that Vietnam often has better innovation outputs in comparison with innovation inputs. The innovation startup ecosystem has also seen positive developments with the emergence of technology unicorns, attracting venture capital, despite the fluctuations in the general world situation. Major cities such as Ho Chi Minh City and Hanoi have been recognized

as dynamic startup hubs in the region. Science, technology, and innovation have also made certain contributions to economic growth. The establishment and operation of innovation support centers such as the National Innovation Center (NIC) and the National Startup Support Center (NSSC) are also bright spots, creating a foundation for support and connection activities.

However, the current situation of innovation in Vietnam still faces many challenges. Investment in R&D is still limited, with the spending rate on R&D only about 0.4% of GDP - lower than the average of many countries in the world and in the region (Ministry of Science and Technology, 2023)[3]. Funding for R&D still depends mainly on the state budget and partly on enterprises, requiring stronger incentive mechanisms to promote non-budgetary investment in innovation activities.

Table 1. Spending on R&D by economic sector

Unit: Trillion VND

Economic Sector	**2015**	**2017**	**2019**	**2021**
State	11,469.7	12,970.57	15,105.22	16,155.1
Non-State	2,209.1	10,122.28	12,864.43	15,813.2
Foreign-invested	4,817.3	3,275.74	4,132.15	4,098.2
Total	**18,496.1**	**26,368.59**	**32,101.80**	**36,066.5**
R&D Expenditure/GDP Ratio (%)	**0.44**	**0.52**	**0.53**	**0.42**

Source: National Agency for Science and Technology Information, 2023.

Innovation activities in enterprises, especially in small and medium-sized enterprises (SMEs), are still quite limited. Many enterprises are not fully aware of the importance of innovation and are not ready to invest in breakthrough activities. Innovation results, reflected in the number of international publications and patent applications, have increased, but the quality and commercialization rate of these research results remain a major challenge.

Table 2. Current status of innovation implementation by enterprise size

Units: %

Enterprise size	**Product Innovation Only**		**Process Innovation Only**		**Both Product & Process Innovation**		**None Innovation**	
	2021	2022	2021	2022	2021	2022	2021	2022
Small	4.7	8.8	13.2	6.6	5.0	5.7	77.1	78.9
Medium	10.9	15.5	16.3	22.5	9.4	9.9	63.4	52.1
Large	12.9	16.6	17.2	17.8	15.9	23.6	54.0	42.1

Source: Innovation Survey in Enterprises 2023, National Agency for Science and Technology Information.

[3] In 2021, the percentage of GDP invested in research and development (R&D) was 5.56% in Israel, 4.93% in South Korea, 3.77% in Taiwan, 3.46% in the United States, 2.16% in the European Union, 1.3% in Thailand, 2.2% in Singapore, and 1% in Malaysia.

Regarding human resources, Vietnam needs to continue to improve both the quantity and quality of human resources for innovation, especially highly qualified human resources with skills suitable to the requirements of the Industrial Revolution 4.0. Infrastructure supporting innovation, including high-tech parks and innovation centers, is receiving investment and development attention from the Government, promising to create important foundations for innovation activities. The science and technology market is also gradually forming and developing, but breakthrough policies are needed to promote transactions of science and technology goods, effectively connecting technology supply and demand.

A noteworthy point is that although Vietnam's policies increasingly emphasize the central role of enterprises in the national innovation system, the actual innovation capacity of most enterprises, especially SMEs, is still weak *(World Bank, 2021*). R&D spending in enterprises is still low, and innovation activities are not widespread; their effectiveness is limited. This creates a significant gap between policy orientation and the implementation capacity of the subject considered as the center. Therefore, there is a need for specific, practical, and accessible legal mechanisms to enhance innovation capacity in enterprises, through specific support in finance, technology, human resources, and cooperation connections.

The process of promoting innovation in Vietnam still faces many challenges and bottlenecks:

Legal and policy framework: a lack of specific mechanisms and policies that are strong enough to promote innovation in high-tech and emerging fields. The legal system is still lacking in synchronization and overlap between sector-specific laws, causing difficulties in implementation. Administrative procedures related to IP and R&D project implementation are still very complicated.

Innovation system: still fragmented, lacking a close connection between research institutes, universities, and enterprises, leading to a low commercialization rate of research results.

Investment in R&D: spending on R&D is still low compared to potential and demand, and even tends to decrease in some periods, especially since investment from the private sector is still limited. Financial mechanisms for science, technology, and innovation are still rigid, not really encouraging high-risk activities.

Enterprise capacity: The technology-absorbing and innovation capacity of most enterprises, especially SMEs, is still limited. Many businesses do not have a clear innovation strategy, are afraid of change, and lack resources to invest in R&D. Awareness of innovation in the business community is still limited *(National Agency for Technology Entrepreneurship and Commercialization Development - NATEC, 2023).*

Human resources: not meeting the development requirements of the economy, lacking leading experts and human resources with skills suitable for new technology trends.

Commercialization of research results: The rate of commercialization of scientific research results, especially from public institutes and universities, is still very low, causing waste of public investment resources.

Vietnam's "output better than input" paradox in the GII rankings is a positive point, showing the ability to take advantage of existing resources, but it also contains many concerns. If the "input" factors, such as R&D spending, institutional quality, business environment, and high-quality human resources, remain low and face many limitations, then "better output" indicators may only be relative and difficult to sustain.

The challenge is how to improve both the quality of "input" and, at the same time, improve the efficiency of converting "input" into truly high-value-added innovative "outputs", making practical contributions to socio-economic development. Therefore, the improvement of the legal system is not only to increase resources (inputs) for innovation, but also to focus on removing operational barriers, improving the efficiency of transforming resources into innovation results with added value and high practical applicability, making real contributions to socio-economic development.

3.2. International context of innovation

3.2.1. Global innovation trends and the role of international organizations

The current global innovation landscape is witnessing complex movements. Global economic growth tends to slow down, financial resources for innovation are shrinking, and labour productivity in many countries is stagnant (*WIPO, 2024b*). Global investment in science and technology has shown signs of slowing down after the boom period of 2020-2022, especially in venture capital flows and the number of international scientific publications. However, technological advancements continue to progress strongly in key areas such as healthcare (genome sequencing), computational technology, energy (electric batteries), and the application of emerging technologies like AI, 5G, robotics, and electric vehicles is still on the rise. The prominent trends of innovation include: Open innovation, Sustainable innovation, the application of artificial intelligence (AI), the exploitation of Big Data, and the development of other emerging technologies.

In this context, international organizations play an important role in shaping and promoting global innovation:

World Intellectual Property Organization (WIPO): Promote global IP protection, harmonize IP legal regulations, and publish the annual Global Innovation Index (GII), providing a basis for assessing and comparing innovation capabilities among countries.

Organization for Economic Cooperation and Development (OECD): Conduct in-depth policy analysis on innovation, make important recommendations, and promote principles of responsible AI governance and sustainable development;

World Bank: Support developing countries, including Vietnam, in building and implementing innovation strategies to promote economic growth and poverty reduction.

A prominent feature of the current international context is the increase in strategic competition between major powers, leading to "trade and technology wars". China

has taken the lead in many cutting-edge technology fields. This contributes to the global trend of "fragmentation and division", especially in the field of digital technology ("digital divide") and slows down the traditional globalization process. In that context, countries are increasingly focusing on building technological autonomy and developing an endogenous innovation system. For Vietnam, this requires an innovation strategy and a legal framework that not only aims at international integration but also enhances its autonomy, reduces dependence on external factors, and strengthens resilience to potential shocks in an increasingly polarized and unpredictable world.

3.2.2. International experience in building and perfecting innovation laws

Many countries in the world have achieved significant results in promoting innovation through the development and improvement of appropriate legal frameworks. The experiences of these countries provide valuable lessons for Vietnam.

Korea has built a comprehensive legal foundation with important laws such as the Framework Law on Science and Technology, the Law on Invention Promotion (2023), and the Special Law on Strengthening and Protecting the Competitiveness of National Strategic High-Tech Industries (2022). This country has strongly developed the R&D support system through public research institutes such as the Korea Institute of Science and Technology (KIST), promotion agencies such as the Korea Institute of Technology Promotion (KIAT), along with controlled sandbox policies for new technologies. The Ministry of Science and Information Technology (MSIT) 2025 Work Plan continues to prioritize strategic technologies such as AI and commercialization of R&D results (*MSIT, 2025*).

Singapore stands out for its long-term Research, Innovation and Enterprise (RIE) Plans, especially RIE2025, with large budgets, focusing on strategic areas and promoting the commercialization of research results. Agencies such as A*STAR (scientific research and commercialization) and Enterprise Singapore (supporting entrepreneurship and innovation) play a key role. The National IP Protocol guides the management and commercialization of IP generated from public funds. Startup support programs such as Startup SG and tax incentives for innovation (Enterprise Innovation Scheme - EIS) are also very effective.

Israel: Dubbed the "startup nation", Israel has the 1984 Industrial Research and Development Promotion Law as its foundation. The Israel Innovation Authority (IIA) plays a central role in policymaking, R&D funding, startup support, and technology transfer. Venture capital support policies, typically the Yozma program, have contributed significantly to the success of the Israeli startup ecosystem.

Finland: With the goal of increasing total R&D spending to 4% of GDP by 2030, Finland enacted the Research and Development Funding Act 2023. Business Finland plays an important role in providing funding for R&D, supporting innovation activities, and promoting public-private cooperation.

ASEAN countries such as Malaysia, Thailand, and Indonesia are also actively building and perfecting the legal framework for innovation.

Malaysia has a National Policy on Science, Technology and Innovation (NPSTI) and a Malaysian Digital Economy Blueprint (MyDIGITAL), with the coordination role of the Ministry of Science, Technology and Innovation (MOSTI) and the Malaysian Digital Economy Agency (MDEC).

Thailand enacted the National Science, Technology and Innovation Law in 2008, establishing the National Science, Technology and Innovation Policy Committee (NSTIC, later NCRIP) and the National Science, Technology and Innovation Policy Office (STIO).

Indonesia has Law No. 11/2019 on the National Science and Technology System and the growing role of the National Research and Innovation Agency (BRIN).

The common point in successful models is the proactive role of the State in creating and coordinating. The State not only promulgates laws but also plays a leading role in orienting the development strategy of innovation, investing in priority areas, building essential infrastructure, and effectively coordinating the activities of subjects in the innovation system. Specialized innovation agencies such as IIA (Israel), Business Finland, A*STAR and Enterprise Singapore (Singapore), KIAT and KIST (Korea), BRIN (Indonesia), MOSTI and MDEC (Malaysia) play a key role in implementing policies and providing specific support programs. This approach is not a purely administrative intervention in the market but a harmonious combination of market mechanisms and the leading and facilitating role of the State to achieve national innovation goals.

This suggests that Vietnam needs to continue to strengthen the capacity and role of state agencies related to innovation, such as the Ministry of Science and Technology, innovation centers, and science and technology development funds, not only in policymaking but also in coordinating, connecting, and implementing support programs effectively, flexibly, and with a long-term vision. Table 3 below compares some key aspects of the innovation legal framework of some typical countries.

Table 3: Comparison of innovation legal frameworks in some countries

Country	Key Legal Documents	Main Governing Bodies	Notable R&D Support Mechanisms	Innovation/Startup Support Policies	IP Management & Commercialization
South Korea	*Framework Act on Science and Technology; Invention Promotion Act; Special Act on National Strategic High-Tech Industries*	*Ministry of Science and ICT (MSIT)*	*Large-scale R&D funding; national programs for strategic technologies; SME R&D support*	*Venture capital funds, tech incubators, legal sandbox for AI*	*Strong IP protection system; Technology Licensing Offices (TLOs)*
Singapore	*RIE Plans (e.g., RIE2025)*	*Research, Innovation and Enterprise Council (RIEC); A*STAR; Enterprise Singapore*	*Major funding for strategic sectors (e.g., advanced manufacturing, healthcare, sustainable cities); public-private partnerships*	*Startup SG (grants, co-investment, mentorship); tax incentives (EIS); support for internationalization*	*National IP Protocol; support for the commercialization of publicly funded IP*

Israel	*Encouragement of Industrial R&D Law (1984)*	*Israel Innovation Authority (IIA)*	*Conditional R&D grants (repayable upon success); national programs for emerging tech (AI, Bio-Convergence)*	*Startup funds; tech incubators; Tnufa program (idea-stage); support for high-tech talent*	*Promotion of commercialization; support for international IP registration*
Finland	*Research and Development Funding Act (2023)*	*Business Finland; Ministry of Education and Culture; Ministry of Economic Affairs and Employment*	Significant increase in public R&D budget; public-private collaboration programs; funding for enterprise and research institute innovation projects	R&D funding for SMEs and large firms; startup acceleration programs; support for internationalization	Support for IP registration and exploitation; technology transfer programs
Vietnam	Draft Law on Science, Technology & Innovation; IP Law; Investment Law; Enterprise Law, etc.	Ministry of Science and Technology and related ministries	National, ministerial, and provincial science and technology programs; National Science and Technology Development Fund; National Innovation Fund	Support for innovative startups and SMEs (Decree 80, 97); tax and credit incentives for high-tech projects	IP protection system under development; Science and Technology Market Development Program

Source: Compiled by the authors

3.2.3. Vietnam's international commitments on innovation and intellectual property

Vietnam has been actively integrating into the international economy, as demonstrated by its participation in many important international treaties related to innovation and intellectual property.

Participation in WIPO international treaties: Vietnam is a member of most of the core international treaties administered by WIPO, including the Paris Convention for the Protection of Industrial Property, the Berne Convention for the Protection of Literary and Artistic Works, the Patent Cooperation Treaty (PCT), the Madrid Agreement Concerning the International Registration of Marks, the WIPO Copyright Treaty (WCT), the WIPO Performances and Phonograms Treaty (WPPT), and many other treaties. Participation in these treaties requires Vietnam's intellectual property legal system to be constantly improved to be compatible with international standards.

Commitments in new-generation Free Trade Agreements (FTAs): Vietnam has signed and implemented important FTAs such as the Vietnam - EU Free Trade Agreement (EVFTA), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP). These FTAs all have separate chapters on IP with higher protection standards than the WTO TRIPS Agreement and require stricter IP enforcement measures. Specifically:

- EVFTA has commitments on IP protection, labour and environment, and also has provisions to support SMEs through simplification of procedures, transparency and management cooperation;

- CPTPP includes comprehensive provisions on e-commerce, IP, labour and environment, and also has provisions to support SMEs;
- RCEP includes provisions on IP, e-commerce, competition, SME support, and economic and technical cooperation.

These international commitments not only put pressure on Vietnam to reform and improve its domestic legal system to be suitable, but also open up opportunities for international cooperation, market access, and new technology access. Importantly, new-generation FTAs do not stop at IP provisions but also include provisions on scientific and technological cooperation, technical assistance, SME development, e-commerce and investment.

These provisions, although not directly constituting the "innovation law", create framework conditions and opportunities for cooperation, technology transfer, and capacity building for domestic innovation entities. Therefore, the improvement of Vietnam's innovation law needs to maximize opportunities and effectively implement cooperation commitments in FTAs. It is not just limited to internalizing IP regulations but requires close and proactive coordination of relevant ministries and branches to specify and implement these cooperation provisions in practice.

4. Requirements for the improvement of legal regulations on innovation in Vietnam

4.1. Requirements from the domestic context

The domestic context poses many urgent requirements for the improvement of the law on innovation:

Addressing current bottlenecks and shortcomings: It is necessary to improve the efficiency of resource utilization in science, technology, and innovation (STI) investment, overcoming the situation of scattered and unfocused funding. There must be a stronger push for the commercialization of R&D results and enhanced substantive linkages between research institutes, universities, and businesses. An important requirement is to build a flexible financial mechanism, accepting risks in scientific research and innovation, instead of the current rigid financial management processes. At the same time, it is necessary to continue to simplify administrative procedures and improve the business environment to create the most favourable conditions for innovation activities.

Supporting businesses, especially SMEs and start-ups in innovation: The law needs to create more favourable conditions for these businesses to access capital, advanced technology, markets, and high-quality human resources. There should be specific, attractive, and accessible preferential policies on taxes and credits to encourage businesses to boldly invest in R&D and innovation activities.

Developing high-quality human resources for innovation: The requirement is to fundamentally reform the higher education and vocational training system, closely linking training programs with the practical needs of the labour market and the country's innovation development orientation. At the same time, it is necessary to

develop and implement breakthrough policies to attract and promote science and technology talents, including leading domestic experts, overseas Vietnamese, and international experts.

Clearly define the roles of the State and the market: The State should play a role in shaping the environment, setting strategic directions, and providing initial resource support for innovation, while the market should take the leading role in allocating resources and evaluating the effectiveness of innovation activities.

One of the core requirements from the domestic context is the need to institutionalize the mechanism of "risk acceptance" and "output-based evaluation" in legal regulations. Innovation activities, especially scientific research and new technology development, are inherently high-risk, and not all projects can be successful as expected. However, current legal regulations, especially regulations on public financial management, are often designed to prevent risks to the maximum extent, lack flexibility, and do not accept failure, which invisibly creates a big barrier for scientists and science and technology organizations that want to pursue breakthrough innovation ideas.

The draft Law on Science, Technology, and Innovation aims to change this mindset, shifting from controlling the input process to managing based on output results, efficiency, and controlled risk acceptance. Therefore, the upcoming law improvement should clearly define regulations on the controlled risk acceptance mechanisms, the mechanism of output-based funding allocation (or spending contract based on final products), and transparent, well-defined criteria for evaluating output effectiveness. These changes will create room to foster creativity, reduce unnecessary administrative burdens, and encourage researchers and businesses to more confidently pursue breakthrough innovation ideas.

4.2. Requirements from the international context

The international context also poses important requirements for the improvement of Vietnam's innovation law:

Learning good practices and successful experiences from advanced countries: Vietnam needs to proactively study, learn, and selectively apply legal models and innovation support policies that have been proven effective in countries with developed innovation systems, such as Korea, Singapore, Israel, Finland, and other countries.

Meeting the requirements of international economic integration and implementing international commitments: The improvement of innovation law must ensure compatibility and full implementation of international commitments that Vietnam has participated in, especially commitments on IP in new-generation FTAs (EVFTA, CPTPP, RCEP) and international treaties of WIPO. At the same time, it is necessary to create a favourable legal framework for international cooperation on R&D, technology transfer, and attracting foreign investment in high-tech and innovation fields.

Adapting to new global technological and legal trends: Innovation law must be capable of rapidly responding to the emergence of new technologies such as AI, Big Data, and Blockchain. This requires the development of flexible regulatory frameworks that strike a balance between promoting innovation and managing risks while safeguarding public interests. Studying and applying advanced governance models, such as controlled regulatory sandboxes, is essential to create space for new policy and technological experimentation.

In the process of learning from international experience, Vietnam needs to consider the specific economic, social, and cultural context and level of institutional development of Vietnam to make appropriate adjustments and adaptations. It is necessary to thoroughly analyze the prerequisites, success factors, and failures of legal models in other countries to distill and apply what is most suitable to Vietnam's context.

4.3. Analyze the gaps and inadequacies in Vietnam's current legal framework on innovation

From the above analysis, we can see the main gaps and shortcomings in the current legal framework on innovation in Vietnam as follows:

Lack of synchronization and consistency: The legal system related to innovation still lacks synchronization and consistency between sector-specific laws (such as the Law on Science and Technology, the Law on Intellectual Property, the Law on Investment, and the Law on Enterprises) and implementing statutory documents, as well as between these laws and laws on finance, budget, and tax. This causes difficulties and overlaps in the application and implementation process.

Rigid financial mechanism: Regulations on financial mechanisms for science, technology, and innovation are still heavily administrative and rigid, not really encouraging investment from the private sector, and not creating conditions for accepting risks in scientific research and breakthrough innovation projects.

Complicated administrative procedures: Administrative procedures related to IP registration and protection, R&D project approval and implementation, and access to incentive policies are still complicated, cumbersome, time-consuming, and costly for businesses and researchers.

Incentive policies remain unattractive or difficult to access: Although numerous incentive policies exist, the attractiveness and accessibility of these policies to businesses, especially SMEs and innovative startups, are still limited due to complex requirements or a lack of resources for effective implementation.

Obstacles in commercializing publicly funded research outcomes: Regulations concerning the ownership, management, and commercialization of scientific research results generated from the state budget at public research institutes and universities still remain problematic, failing to provide strong incentives for translating these outcomes into practical application.

Lack of legal framework for new innovation models: There is no clear and suitable legal framework for new innovation business models based on technology platforms

(such as sharing economy, fintech, and edtech) and emerging technologies (such as AI, blockchain, and Big Data).

Limited enforcement and monitoring capacity: The capacity of state management agencies in enforcing and monitoring compliance with laws on innovation and IP is limited, leading to low policy effectiveness.

Table 4: Main gaps and shortcomings in Vietnam's innovation legal framework and requirements for improvement

Legal Area	Current Gaps/Challenges	Improvement Requirements (Domestic & International Context)
Overall Legal Framework	Lack of consistency and synchronization among laws; some outdated regulations are not aligned with innovation practices.	Review and revise related laws comprehensively; develop flexible regulations adaptable to rapid changes in technology and business
Finance for Innovation	Rigid financial mechanisms, low risk tolerance, limited access to preferential funding, and low R&D spending.	Diversify funding sources; introduce flexible, risk-tolerant financial mechanisms; increase public R&D spending and incentivize private investment; improve tax and credit policies.
Intellectual Property	Complex registration procedures; weak enforcement capacity; obstacles in commercializing IP funded by the state; conflicts between trademarks and trade names.	Simplify procedures; strengthen IP enforcement (especially in digital environments); clarify benefit-sharing mechanisms for state-funded IP; resolve legal conflicts.
Support for Innovative Enterprises	Incentive policies are unattractive and hard to access (especially for SMEs and startups); lack of substantial support for commercialization.	Develop tailored, accessible incentive packages; support market, technology, and talent connections; promote venture capital development.
Human Resource Development	Workforce quality is insufficient; lack of policies to attract talent; weak linkage between training institutions and businesses.	Reform higher education and vocational training; introduce special incentives for science and technology talent; promote university-business collaboration.
State Management & Regulatory Sandbox	Bureaucratic procedures; lack of legal framework for new models and technologies; limited coordination and supervision capacity.	Accelerate administrative reform and digital transformation in governance; establish legal sandbox frameworks; enhance inter-agency coordination and capacity.

Source: Compiled by the authors

5. Proposals to improve legal regulations on innovation in Vietnam

5.1. Principles guiding legal reform

The improvement of legal regulations on innovation in Vietnam should be guided by the following basic principles:

Focusing on enterprises: Legal regulations must be designed with a focus on enterprises, especially SMEs and innovative startups. The legal mechanism must create favorable conditions for enterprises to access resources, implement R&D activities, commercialize products and expand markets. The State needs to have preferential policies on finance, tax, land, bidding and credit to create favorable conditions for enterprises to carry out innovation activities to improve the

technological level, productivity, quality and competitiveness of products and goods;

Synchronous and consistent: It is necessary to ensure unity, harmony, and non-contradiction between the provisions of the Law on Science, Technology, and Innovation and other sector-specific laws, such as the Investment Law, Enterprise Law, Intellectual Property Law, tax laws, and implementing statutory guidelines.

Flexible and adaptive: In the context of rapidly changing technology and business models, the law needs to be flexible, adjustable, and updated in a timely manner so as not to become a barrier to innovation and development.

Transparent and predictable: Legal provisions must be clear, easy to understand, easy to apply, and relatively stable so that entities can anticipate and comply, while creating trust for investors.

International integration: Vietnam's law on innovation needs to be consistent with international commitments that Vietnam has participated in and approach the best international practices and standards, creating conditions for cooperation and attracting resources from abroad.

Accepting controlled risks: It is necessary to build legal mechanisms that allow accepting a certain level of risk in breakthrough R&D and innovation activities, along with effective risk management measures.

Ensuring a balance of interests: The law needs to ensure a harmonious balance of interests between the State, researchers, businesses, and the whole society in the process of creating and enjoying the results of innovation.

5.2. Proposing amendments and supplements to key legal documents

5.2.1. Completing the Draft Law on Science, Technology, and Innovation

It is necessary to fully and comprehensively legalize the concept of innovation, not only limited to technological innovation but also including non-technological innovation, innovation in management, innovation in business models, open innovation, and especially emphasize the role of innovation in enterprises.

Stipulate more clearly and specifically the roles, responsibilities, and coordination mechanisms between entities in the national innovation system, including the State (central and local), research institutes, universities, enterprises (including state-owned enterprises, private enterprises, SMEs, innovation startups), and intermediary organizations supporting innovation.

Operationalize the mechanism by which the State commissions (or orders) science, technology, and innovation (STI) tasks based on actual market needs, urgent socio-economic issues, and strategic national development goals - instead of relying solely on proposals from scientists.

Complete regulations on the establishment, management, and operation of science and technology development funds at all levels, ensuring their independence, professionalism, flexibility, and efficiency in funding R&D and innovation

activities, especially funding the high-risk projects with great potential for breakthrough innovation.

Supplement regulations on periodic and scientific assessment of the impact of policies and laws on science, technology, and innovation as a basis for adjusting and perfecting laws and policies.

5.2.2. Perfecting the Law on Intellectual Property

Strengthen measures for the protection and enforcement of intellectual property (IP) rights more effectively, especially in the digital environment, to align with commitments under the EVFTA, CPTPP, and other international treaties to which Vietnam is a party.

Simplify procedures for IP registration and rights establishment, and promote the application of information technology and digital transformation throughout the entire IP management process - from filing and searching to dispute resolution.

Provide clearer and fairer regulations on IP rights for scientific research and technological development results generated from the state budget funding, build a reasonable benefit-sharing mechanism between the State, the host organization, and the inventor, and encourage the commercialization of these intellectual properties.

Study and have effective solutions to resolve common legal conflicts, such as conflicts between trademarks and trade names, and domain names.

Develop programs and policies to support businesses, especially SMEs, in developing IP strategies, registering, protecting, and effectively exploiting their intellectual property.

5.2.3. Completing the Investment Law, Enterprise Law, and policies to support businesses

Review and expand the list of industrial sectors and occupations eligible for special investment incentives, specifically targeting R&D activities, high technology, innovation, and innovative startup enterprises - particularly in nationally prioritized technology fields.

Develop specifically tailored investment incentive packages, including tax incentives (corporate income tax, import duties on R&D equipment), land access (priority access to production sites in high-tech zones and innovation hubs), and credit support (preferential interest rates, loan guarantees), designed to be attractive, transparent, and easily accessible for innovation projects and creative startups.

Perfect the legal framework for the operation of venture capital funds and angel investment funds, creating favourable conditions for capital mobilization for innovative startups.

Enhance the effectiveness and expand the scope of support programs for SMEs to participate in innovation activities, such as those programs stipulated in Decree No. 80/2021/ND-CP, ensuring that this support is substantial and reaches the right target SME.

5.2.4. Improve financial mechanisms, investment incentives, and public procurement for innovation

Diversify investment capital sources for innovation, not only relying on the state budget but also strongly encouraging the participation of the private sector and domestic and foreign investment funds.

Amend and supplement tax laws (Corporate Income Tax Law, Personal Income Tax Law) in the direction of increasing incentives for R&D and innovation spending of enterprises, and at the same time have attractive tax policies to attract and retain science and technology talents.

Reform regulations on public procurement in the direction of prioritizing the selection and purchase of innovative products and services, domestically developed technology products, and creating output markets for innovative enterprises.

Allow enterprises to allocate a higher proportion of their pre-tax profits to the Science, Technology, and Innovation Development Fund, and establish a more flexible and efficient mechanism for utilizing this fund, reducing administrative barriers.

5.2.5. Developing high-quality human resources for innovation

Continue to strongly reform education and training policies at all levels, especially higher education and vocational training, towards developing creative thinking capacity, digital skills, problem-solving skills, and other soft skills, in order to meet the needs of high-tech industries and the innovation-based economy.

Develop and implement special and outstanding incentive policies to attract, retain, and promote the talents of excellent scientists and leading technology experts, including overseas Vietnamese and prestigious international experts.

Encourage and facilitate close cooperation between universities, research institutes, and enterprises in training, research, and technology transfer activities.

5.2.6. Innovate state management, strengthen policy coordination, and pilot flexible mechanisms

Improve the capacity and operational efficiency of state management agencies on science, technology, and innovation at both the central and local levels.

Strengthen the inter-sectoral and inter-level coordination mechanism in developing, promulgating, and organizing the implementation of policies and laws on innovation, avoiding overlap and inconsistency.

Develop and effectively implement a controlled sandbox legal framework for new technologies, products, services, and business models, especially in areas with rapid breakthrough innovation potential but still without adequate legal regulations.

Promote the application of information technology and digital transformation in state management of science, technology, and innovation towards a transparent, effective, and data-based management system.

The completion of innovation laws in Vietnam is a complex process, requiring careful consideration between inheriting existing regulations, absorbing international experience, and ensuring suitability with the specific context of the country.

6. Conclusion

The article analyzes the domestic and international context related to innovation activities, thereby clarifying the urgent requirements and legal gaps that still exist in the legal system on innovation in Vietnam. On that basis, the article proposes a number of guiding principles and a group of solutions to perfect the legal framework for innovation in a synchronous, effective, and consistent manner with global development trends.

The analysis results show that although Vietnam has made significant efforts and achieved certain achievements in promoting innovation, demonstrated through the improvement of GII rankings and the initial development of the startup ecosystem, there are still major challenges. The current legal framework is still lacking in synchronization; many regulations are still rigid, not keeping up with the dynamic development of innovation and good international practices. The financial mechanism has not really encouraged venture capital and risk-taking; The innovation capacity of enterprises, especially SMEs, is still limited; The connection between entities in the innovation system is still loose; and high-quality human resources have not yet met the demands of the knowledge-based economy.

In the context of intensifying global technological competition, emerging innovation trends, and deep integration commitments, the improvement of innovation-related legislation has become an essential requirement for Vietnam to be able to seize opportunities, overcome challenges, and achieve its socio-economic development goals. The following are some key policy implications:

First, the process of improving innovation-related legislation should not be limited to amending a few individual sector-specific laws, but rather requires a comprehensive, cross-sectoral approach that ensures synchronization, consistency, and coherence across the entire legal framework.

Second, a fundamental shift in state management thinking is needed - moving from strict procedural control to outcome-based governance, embracing controlled risk-taking, and creating space for creativity.

Third, support policies should be designed to be substantive, easily accessible, and suitably tailored to the diverse needs of innovation stakeholders - especially the business sector.

Fourth, learning from international experience must be accompanied by careful analysis, selective adaptation, and contextualization to suit Vietnam's specific conditions.

One important point to emphasize is that innovation is inherently a rapidly evolving field, closely tied to the continuous advancement of science and technology, as well as the transformation of business models. Therefore, the legal framework for

innovation cannot be static - it must be adaptive and regularly updated. Therefore, improving innovation-related legislation in Vietnam is not a one-time or one-off task.

This improvement requires an ongoing process of review, impact assessment, and continuous revision and updating to ensure that the legal system always serves as a powerful enabler, rather than a barrier, to robust and sustainable development of innovation. It is essential to establish mechanisms for regular monitoring, oversight, and impact evaluation of innovation laws on a regular basis, with active participation from experts, scientists, businesses, and the broader community./.

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