

CURRENT SITUATION AND SOLUTIONS FOR IMPLEMENTING POLICIES ON PATENT EXPLOITATION SUPPORT TO FOSTER INNOVATION IN SUPPORTING INDUSTRY ENTERPRISES IN VIETNAM

Do Duc Nam¹

National Institute of Patent and Technology Exploitation
Ministry of Science and Technology

Abstract:

The article focuses on analyzing the current situation of implementing policies that support patent exploitation to foster innovation in supporting industry enterprises. Based on an examination of the advantages and existing limitations in both policy design and practical application for supporting industry enterprises, the article proposes several recommendations and solutions aimed at enhancing the effectiveness of policy implementation on patent exploitation. These efforts are intended to better serve the innovation needs of Vietnam's supporting industry enterprises.

Keywords: Patent exploitation; Supporting industry enterprises; Innovation.

Code: 24122401

1. Introduction

Supporting industry (SI) plays an important role as a direct driving force to create added value for the industry, helping to improve the competitiveness of main industrial products and promote rapid industrialization. SI is considered the "backbone" and foundational base for the development of industrial production, determining the output quality of industrial products through the components and parts it provides. In their operation, SI enterprises often specialize in specific stages or product components where they hold competitive advantages, while at the same time, engage in collaborative partnerships to refine and create complete products that enable their participation in global supply chains.

The outstanding feature of SI enterprises is that most of them belong to the group of small and medium enterprises (SME), with a low-average production technology foundation and low demand for technological innovation. This stems from the nature of their operations, which primarily focus on large-scale mass production with stable technology and with minimal variation. In fact, the urgent need of these enterprises is to innovate in governance and effective production management. However, when they have stabilized in terms of governance and production management, some enterprises begin to have the need to improve technology to improve productivity, increase the level of automation, reduce the rate of defective and scrap products, and reduce product costs.

¹ Author's contact: namdoduc.hust@gmail.com

Many international studies have analyzed the relationship between patent exploitation, application activities, and business development. Mayank Singh et al. (2020) pointed out the link between the number of patents exploited and the position of enterprises on the Fortune 500 revenue rankings. Xiao, Yang & Zheng (2021) analyzed how SMEs use patents to improve innovation efficiency, emphasizing the role of discovering new knowledge and exploiting existing knowledge. Lee & Park (2020) show that choosing the right patent commercialization strategy has a positive impact on innovation performance. Graham & Vishnubhakat (2019) emphasize the importance of building a high-quality patent portfolio, while Hottenrott & Thorwarth (2019) analyze the impact of patent policy on innovation performance. Bader & Park (2019) focus on the incentives for SMEs to file patents and their impact on innovation performance.

In Vietnam, some notable studies include the work of Nguyen Huu Can (2017, 2018) on the level of patent usage in some industries in Vietnam, indicating that the pharmaceutical, chemical, and pharmaceutical sectors as well as agricultural and forestry machinery manufacturing sectors have a high level of patent intensity. Nguyen Huu Xuyen (2017) assessed the current situation and proposed solutions to exploit patents in Vietnam's competitive manufacturing industries.

Although there have been many studies analyzing issues in the exploitation and application of enterprises in some industries and fields, these studies have not mentioned the status of policy implementation, especially for such subjects of application as the supporting industry enterprises. This is the research gap that needs to be clarified, because if the implementation is effective, the policy will support and help businesses a lot in this activity.

Currently, the Party and the State have issued many policies related to intellectual property development and support for effective exploitation of intellectual property through Resolutions, Decisions, and Circulars. However, supporting industry enterprises still face many difficulties and shortcomings in the exploitation and application of inventions. Specifically, the dissemination of information on policies is still inadequate, lacking specific information channels for enterprises; capacity building support programs do not have specific priority corridors for supporting industry enterprises; and the focal points responsible for summarizing and evaluating the results of policy implementation remain unclear.

From the above analysis, it is necessary to conduct research and evaluate the current situation of patent exploitation and application activities in supporting industry enterprises, as well as the current state of policy implementation and enforcement in the period of 2013-2023, thereby timely proposing adjustments and supplements to improve the operational efficiency of supporting industry enterprises in Vietnam.

2. Summary of policies on supporting patent exploitation and application in supporting industry enterprises in Vietnam

The State's policies on support activities related to the field of intellectual property have been issued and widely implemented at many policy levels. This article summarizes some relevant policy documents as follows:

Article 124 of the 2005 Law on Intellectual Property (amended and supplemented in 2009) states that the use of inventions is the performance of acts such as:

Manufacturing protected products; applying protected processes; exploiting the uses of protected products or products manufactured according to protected processes; circulating, advertising, offering for sale, storing for circulation of products, and importing products. According to the *2005 Law on Commerce*, commercial activities are profit-making activities, including buying and selling, providing services, investing, trade promoting, and other profit-making activities. To commercially exploit inventions, the inventions must first be protected.

The 2022 amended Law on Intellectual Property stipulates the amendment of Clauses 2 and 3, Article 8 as follows: "Encouraging and promoting innovation activities, exploiting intellectual property through financial support, tax incentives, credit and other investment support and incentives in accordance with the provisions of law to contribute to socio-economic development, improving the material and spiritual life of the people". In which, the State's support for exploiting intellectual property is a new point in this Law, which proves that the State has paid much more attention to the exploitation of intellectual property, including inventions.

Decree No. 80/2021/ND-CP dated August 26, 2021, detailing, and guiding the implementation of an article of the Law on Support for Small and Medium Enterprises, in Clause 2, Article 22 on Contents of support for small and medium-sized enterprises starting innovative businesses, clearly states "Support for intellectual property consultancy, exploitation and development of intellectual property".

Article 25, Contents of support for SMEs participating in industry clusters and value chains, Clause 3 on Support for information, brand development, connection, and market expansion.

In addition, the Government also issued several National Programs on Science and Technology Development, Intellectual Property Development... *In Decision No. 130/QĐ-TTg dated January 27, 2021, Promulgating the National Program on High-Tech Development to 2030*, the tasks and solutions for implementing the program mentioned "Supporting research activities, technology transfer, intellectual property rights derived from research results, promoting close links between enterprises and scientific and technological organizations", specifically: *Promoting cooperation and development of high-tech research facilities and centers; research cooperation projects, technology transfer, exploitation of inventions, industrial property rights between Vietnamese enterprises and foreign enterprises on high technology.*

Resolution No. 58/NQ-CP dated April 21, 2023, of the Government on several key policies and solutions to support businesses to proactively adapt, quickly recover and sustainably develop by 2025, including the viewpoint of proactively developing policies and preparing necessary resources to support businesses to proactively adapt to future fluctuations, promote innovation, enhance competitiveness, develop quickly and sustainably; develop new business models based on innovation.

Decision No. 138/QĐ-TTg amending and supplementing a number of articles of Decision No. 1851/QĐ-TTg dated December 27, 2018 of the Prime Minister approving the Project "Promoting technology transfer, mastery and development from abroad to Vietnam in priority sectors and fields for the period up to 2025, with a vision to 2030", proposing to support organizations and enterprises in searching

for and exploiting intellectual property, and providing intellectual property consultancy (amending points a, b, adding point d in Clause 5, Section II, Article 1);

Decision No. 418/QĐ-TTg dated April 11, 2012, of the Prime Minister approving the strategy for science and technology development for the period 2011-2020, in the activity "Strengthening science and technology potential" mentioned "Developing a system of technology transfer service organizations, technology and equipment markets. Ensuring the enforcement of intellectual property laws, effectively exploiting, and using inventions. Organizing exhibitions to introduce achievements in innovation and creativity in science and technology".

Decision No. 844/QĐ-TTg dated May 18, 2016, approving the Project "*Supporting the national innovation and startup ecosystem until 2025*", in which the main objective of the Project is to create a favorable environment to promote and support the formation and development of types of enterprises with the ability to grow rapidly based on the exploitation of intellectual property, technology, and new business models.

In general, the policy is relatively broad, including supporting industry enterprises. However, if we consider the specificity, supporting industry enterprises have not yet enjoyed specific policies derived from their own characteristics. This is also a point that needs to be noted in the policy recommendations towards innovation activities of supporting industry enterprises in Vietnam.

3. Current situation of implementing the policy of exploiting inventions for innovation in supporting industry enterprises in Vietnam

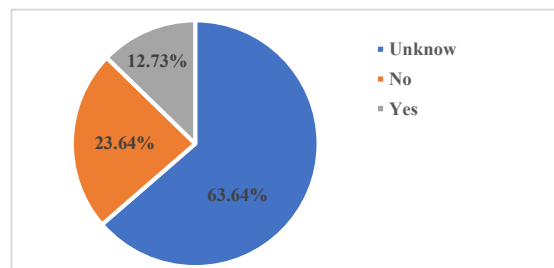
Patent exploitation is the activity that involves retrieving, searching, analyzing, and applying the information in patent records with the aim of supporting and supplementing missing ideas during a company's research and development process, thereby generating new innovations, supporting the completion of production technology processes, perfecting products, and orienting research as well as product markets. In fact, enterprises in general and supporting industry enterprises must constantly innovate to improve their capacity, from the level of production technology to the issue of business administration, to improve productivity, quality, reduce production costs, and meet the requirements of customers and the market.

In the context of socio-economic development, enterprises need to change and invest to keep up with new trends, especially in improving technology levels. Although there are many solutions for technology development, such as doing self-research, acquiring technology transfer, or importing advanced machinery, these solutions require large capital, are time-consuming, and require a huge effort to master the technology.

Most of the Vietnamese supporting industry enterprises (excluding FDI) have medium and low technology levels. A few of them have invested in new technology machinery, that are mainly with foreign support or provided by FDI enterprises when becoming suppliers. Although many supporting industry enterprises have proactively invested in technology and improved labour quality, the number of enterprises capable of becoming first-tier suppliers is still limited. These enterprises are in urgent need of support in terms of policies and implementation mechanisms for exploiting and applying patents to develop technology and to innovate.

Although the Government and localities have developed many policies to support the promotion of intellectual property and patent exploitation, the survey results show that the implementation efficiency is not positive. Of the 100 enterprises sent the survey, only 55 enterprises responded, of which only 8 enterprises (accounting for 14.55%) have patent exploitation activities, mainly focusing on searching for technology information, related products, and market orientation. Other goals of patent exploitation, such as analysis, evaluation, application, and development of exploitation technology, have not been effectively implemented.

Some specific analyses of policy implementation activities are as follows: Regarding the drafting of documents and state management guidance on intellectual property - including patent exploitation and application from 2013 to 2023 - enterprises were generally not interested; most were either unaware of these activities or responded negatively. For example, the Prime Minister's Decision approving the Intellectual Development Program to 2030 requires provinces and local cities to develop specific implementation programs, but to date, the activities of this program have not been implemented. The percentage of surveyed enterprises on their level of understanding of the above information is presented below:

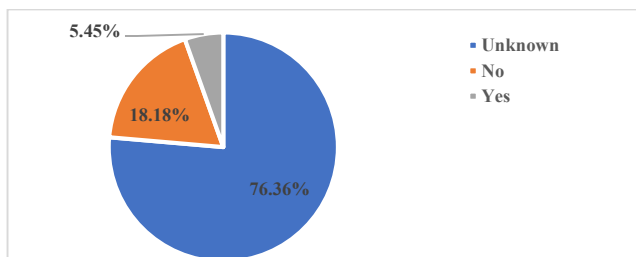


Source: compiled by Author

Figure 1. Enterprises' feedback on the issuance of regulatory guidelines for state management of intellectual property

The survey results show that although local authorities have issued guidelines on intellectual property, including support for patent exploitation, the level of awareness and access of enterprises is still limited. Most enterprises only know about registering and protecting trademarks and industrial designs, while not paying attention to exploiting patent information for technology development. According to the data, 63.64% of enterprises do not know about these guidelines, 23.64% answered unclearly, and the rest mainly only know about the guidelines for registering trademarks and industrial designs, not about the guidelines related to patents.

In the period of 2013-2023, the implementation of policies to support the exploitation and application of patents by localities for enterprises has not been effective. The survey results show that up to 94.55% of enterprises participating in the survey said they did not know or could not access the support policies (Figure 2).

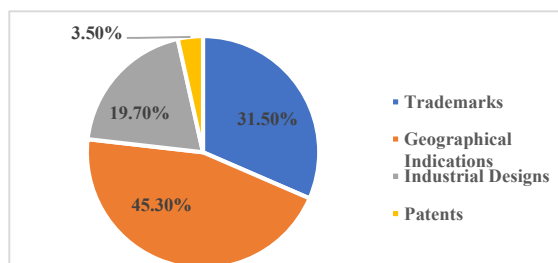


Source: compiled by Author

Figure 2. Feedback on the implementation of local support activities for patent exploitation and application for enterprises

Only 5.45% of enterprises know about local support activities, mainly regarding feasibility searches and patent/utility solutions registration, while the exploitation of technical information from patents is not effective. Supporting industry enterprises still do not understand the policies on exploitation and application of patents, mostly because they have not seen the benefits of these support programs from the State.

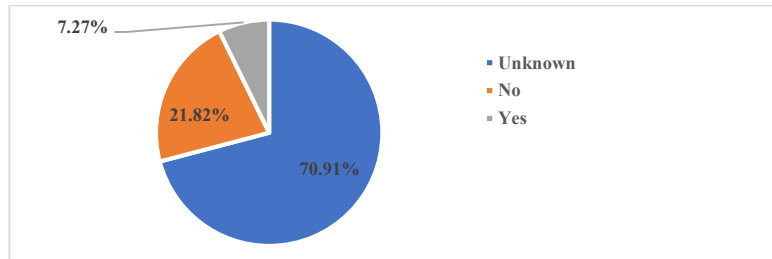
Regarding propaganda activities, dissemination of knowledge, and policies and laws related to intellectual property in general, as well as exploitation and application of patents in particular, localities often assign the Department of Science and Technology at the provincial or municipal level to implement, through the Technology Division or Science Division under the Department. According to the survey results, activities mainly focus on registering trademarks, geographical indications, and activities related to the exploitation and application of patents are very limited (Figure 3).



Source: compiled by Author

Figure 3. Proportion of supporting industry enterprises accessing information, and awareness campaigns on types of intellectual property development in selected localities

According to the survey results, the rate of enterprises that grasp information about exploiting inventions to develop technology and products is very limited. The activities of propaganda and dissemination of knowledge about IP law policies, including inventions of the locality where enterprises work in the period 2013-2023, most of the surveyed enterprises are not aware of these activities.

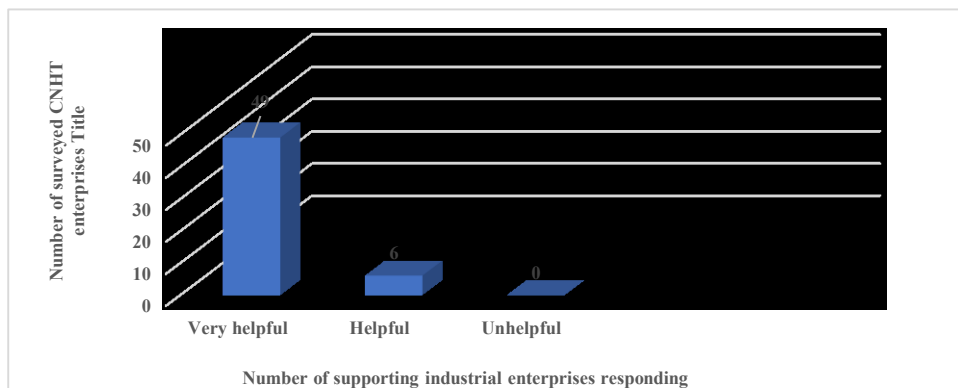


Source: compiled by Author

Figure 4. Proportion of supporting industry enterprises aware of intellectual property awareness campaigns and patent exploitation activities

Activities to disseminate knowledge about intellectual property to supporting industry enterprises are still weak, especially policies to support enterprises in accessing and exploiting patent databases. Notably, up to 92.73% of supporting industry enterprises responded that they did not know or were unclear about these activities; only 7.27% of surveyed enterprises knew about policy dissemination activities.

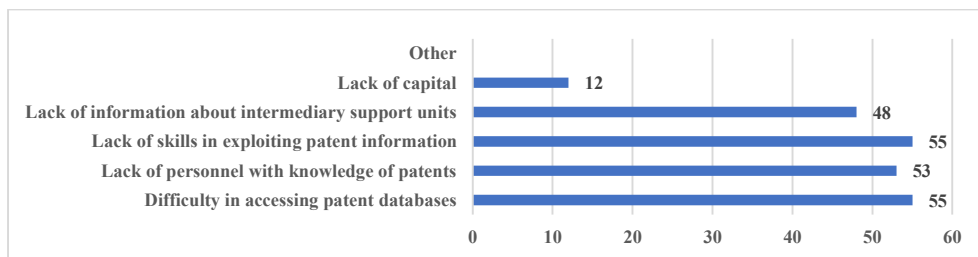
However, it is interesting that after being explained and learning about patent exploitation and application activities, most enterprises highly appreciated the usefulness of this activity in serving production, business, and innovation. Specifically, 49/55 enterprises (accounting for 89.1%) said that this activity was very useful for business development.



Source: compiled by Author

Figure 5. The role of patent exploitation and application in production and business activities

Regarding difficulties in exploiting patent information and applying patents to production and business, most businesses revolve around difficulties in accessing patent databases, a lack of human resources, a lack of skills in exploiting patent information, and a lack of information about supporting intermediary organizations (Figure 6).



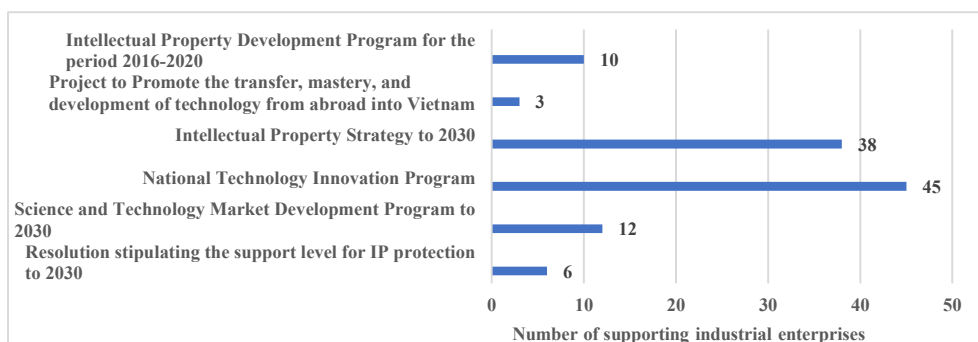
Source: compiled by Author

Figure 6. Number of responses regarding common challenges faced by supporting industry enterprises in patent exploitation and application

The survey indicates that enterprises in the supporting industries are currently facing numerous difficulties in accessing and utilizing patent information. The majority of these businesses only use domestic data sources or free search tools like Google, which results in limited scope and quality of the information they collect. Additionally, the ability of enterprises to analyze and apply patent information is weak due to a lack of technical expertise, which reduces the practical effectiveness of its use.

From an organizational standpoint, many businesses do not have a dedicated intellectual property department. The registration of intellectual assets is often handled by administrative or human resources departments, leading to a lack of strategic management and application of patents. At the same time, the supporting ecosystem for patent utilization is underdeveloped. Intermediary support organizations are primarily state-owned, with limited operational scope and connectivity to businesses. Most surveyed enterprises reported a lack of necessary information and external support to effectively utilize patents for technological development and business production.

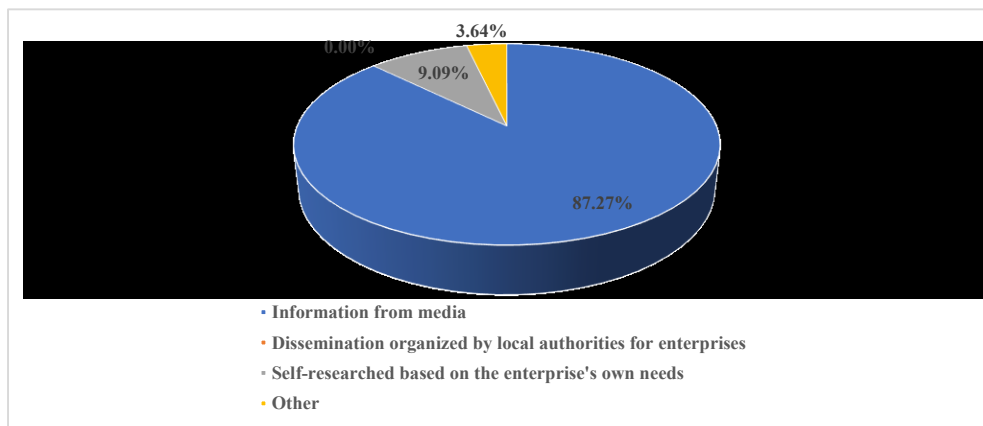
Regarding access to policies and programs on patent utilization and application, the research team obtained the following results (Figure 7):



Source: compiled by Author

Figure 7. Policies known for supporting industry enterprises during the period 2013-2023 and beyond

According to the survey, supporting industry enterprises are more interested in technology than in exploiting and applying inventions, although they still pay attention to intellectual property. The characteristics of these enterprises are mass production with stable technology, and little R&D activities, thus limiting technological innovation. This makes them much less interested in registering and exploiting inventions than enterprises with finished and complete products, directly sold to the market. Enterprises mainly access information about strategies and related programs through newspapers, the internet, and very little through direct dissemination channels from the locality (Figure 8).



Source: compiled by Author

Figure 8. Channels for accessing policy information on technology exploitation and application

Although the State and localities have issued many policies on exploiting, applying inventions, and developing intellectual property, the dissemination of information to supporting industry enterprises is still ineffective, and it is necessary to change the approach to this group of enterprises. Regarding *the role, importance, and benefits of exploiting and applying inventions in production and business*, most enterprises responded positively, saying that this activity is very useful and needs to be expanded. However, they also suggested that there should be information and the units that provide timely support and guidance for enterprises in the early stages, when enterprises do not yet fully understand the procedures and benefits. Regarding *the support activities for professional training on intellectual property from the Intellectual Property Development Program for the period 2016-2020*, none of the surveyed enterprises participated in the activities of the Program. The support for registration of intellectual property protection at home and abroad is also very limited. When registering for intellectual property protection, businesses are not aware of the support from this program. Regarding *support activities, guidance, assessment, valuation of intellectual property, and use of intellectual property for capital contribution*, most of the surveyed enterprises do not have information or do not understand capital contribution using intellectual property. The main reason is that they do not understand and do not know how to value intellectual property - it

is a difficulty that not only enterprises, but also other units, organizations, and individuals encounter.

Regarding *support activities for exploiting industrial property databases for application in production and business*, some enterprises are supported by independent consulting organizations or by the Department of Science and Technology through the IP Platform station deployed by the Institute of Intellectual Property Science, Ministry of Science and Technology, in some provinces.

Thus, the implementation of policies on the exploitation and application of patents in supporting industry enterprises in Vietnam is not effective. The reason is not only from the enterprises, but also from the way the policy's operation and implementation are conducted by the state management agencies. Enterprises do not receive information, or if they know, they do not understand how to implement it, thus creating major obstacles that prevent the policy from being put into practice.

4. Factors affecting the access and implementation of policies on the exploitation and application of patents to promote the development of supporting industry enterprises

Although the State focuses on and cares about the development of supporting industry enterprises, many Vietnamese enterprises have not yet met expectations from reality. Many policies to support enterprises in exploiting intellectual property, including exploiting and applying patents, have been issued and implemented. During the survey, most enterprises did not understand and did not know about these support policies, creating the biggest bottleneck that needs to be cleared so that enterprises can effectively access State policies.

Supporting industry enterprises, like many other types of enterprises, needs State support through policies at all stages of development. Depending on different goals, the State has support policies from tax, credit, finance, to developing production technology and exploiting and developing intellectual property. The survey results from previous research provide a lot of important information to help analyze the factors affecting supporting industry enterprises in accessing and implementing policies on exploiting and applying inventions.

4.1. Objective factors affecting the access and implementation of policies on exploiting and applying inventions of Vietnamese supporting industry enterprises

Factors affecting the limitations in accessing and implementing patent exploitation policies are causes beyond the control of enterprises. They are passively affected by these factors in the State's support activities. Enterprises may know about the issued policies, but do not clearly understand the support procedures and conditions. They also do not grasp the specific level of benefits they will receive, and at the same time, they perceive the access procedures as a time-consuming process. Therefore, enterprises often ignore them and focus on more specific and urgent tasks with immediate benefits.

Some objective factors are as follows:

First, the dissemination of information and knowledge regarding policy documents on intellectual property in general and on the exploitation and application of intellectual property assets, including patents, is a critical factor influencing enterprises' ability to access, understand, and implement policies.

The dissemination of policies on the exploitation and application of patents has not been effective. Enterprises do not know about the information on the State's patent exploitation support activities for enterprises in general, and for supporting industry enterprises. *With a very low rate of supporting industry enterprises knowing about current policies*, this work of the State has not met the requirements. As a result, although enterprises really want to be supported, they do not have enough information to access and implement those policies.

Second, in the context of Vietnam's socio-economic development, the goals of supporting industry enterprises mainly focus on investing in improving corporate governance, productivity, product quality, and developing production technology. The level of interest in intellectual property in enterprises has not really received much attention in the current context. Although there have been changes in awareness in some enterprises, it is still very limited in supporting industry enterprises.

Although inventions are considered quite important in supporting enterprises to protect rights to technological secrets and production processes, *the issue of exploiting and applying other inventions (not owned by the enterprise) is almost very limited.* Supporting industry enterprises almost do not exploit patent information to apply for their own development. *According to the survey, businesses said that due to a lack of understanding of intellectual property law, they do not dare to exploit and use other people's inventions*, fearing that they will be sued when creating products to sell on the market. This is also a limitation of the dissemination of intellectual property knowledge to businesses.

Third, currently, information exploited from patents is still not one of the most important factors determining the development of enterprises, so enterprises have not paid attention to or cared about it. This is the current main situation shown through the survey and interview results of the research team.

For supporting industry enterprises, mainly small and medium enterprises, the most important thing at present is to complete and upgrade the management system, production management, and improve labour productivity and product quality. The way enterprises implement to improve these issues is mainly based on training courses on business administration, purchasing machinery and production equipment with better and more modern technology to improve product quality and increase productivity. They carry out the transfer of technology that comes with this machinery and equipment, and believe that they have ensured the goal.

4.2. Subjective factors affecting the implementation of policies on patent exploitation and application in supporting industry enterprises in Vietnam

The survey results show the ineffectiveness of policies to support enterprises in exploiting and applying patents. In addition to objective factors, it is necessary to analyze subjective factors originating from enterprises themselves in implementing

policies. Supporting industry enterprises are mostly small and medium-sized enterprises, facing many difficulties such as a lack of capital, qualified human resources, machinery and equipment, output markets, and understanding of legal policies. It is necessary to analyze internal impacts of subjective factors to find causes and solutions to help the enterprises see the benefits of patent exploitation activities for better and more stable development.

Firstly, the interest in supporting industry enterprises in implementing patent exploitation and application policies is not high. In fact, supporting industry enterprises have many issues that need to be paid more attention to maintain and develop. The problem of existence depends on the direct factors such as finance (capital), human resources, modern machinery, and equipment to produce quality ensured products, and with the productivity that meets customer orders. They are interested in effective corporate governance, minimizing waste, and managing cash flow in the enterprise. This is the internal problem of supporting industry enterprises today, *most of which are small and medium-sized enterprises with limited potential*, so they need to pay attention to other, more urgent issues.

Secondly, the human resources with qualifications in exploiting and applying patents, understanding the implementation of policies to support the exploitation and application of patents in supporting industry enterprises are limited; most enterprises do not have this team. If there are problems related to IP protection in general, it is necessary to hire a third party for support; there is a lack of experts in patent exploitation, mainly related to trademark and industrial design protection.

Human resources for patent exploitation, patent application, and implementation of support policies in this field are not issues that support industry enterprises are interested in. *This is not a regular activity of enterprises*, so it is difficult for enterprises to focus resources on this activity. Although the issue of patent exploitation for technology development is a solution to help enterprises shorten research time, save effort, and costs in R&D activities.

Third, the issue of receiving information about business policies in the implementation of patent exploitation policies and patent applications in production and business has not received attention. Normally, each enterprise has a division to monitor changes and update policies that directly affect business operations, especially policies on tax, import, export, and land. However, *few enterprises pay attention to and update policies on patent exploitation support* because these issues do not directly affect production and business operations. This is an issue that needs to be assessed more accurately and needs stronger and more effective promotion policies.

Fourth, the issue of awareness of supporting industry enterprises in developing technology based on scientific research and experimental implementation (R&D), including research activities, exploiting technical and technological information from patent records around the world, is not well understood. This is entirely a matter of awareness and deep understanding of the nature of patent exploitation and application activities to improve the technical and technological development of enterprises. In fact, not many enterprises have a deep understanding of this issue because they do not have the motivation, and there are no professional organizations

or units that go into depth to disseminate and train enterprises in the field of patent exploitation to develop technology, develop products, and innovate products in the field of production and business. This represents a policy gap that needs to be addressed. Support should be provided to specialized institutions in this field to help them build capacity and strengthen their role in assisting enterprises, particularly those in the supporting industry.

To promote supporting industry enterprises to effectively exploit and apply patents in research and development of technology and products, many issues need to be improved, including support policies, and raising the understanding and awareness of enterprises. On the enterprise side, if they find this an effective, low-cost method and are supported by the State, then enterprises will certainly be interested in and implement it.

Exploitation and application of patents activities in enterprises are a new issue at the present time, so to promote this activity, the State's guidance is needed. Most importantly, there must be units and organizations (which can be State-owned or private) with expertise and deep knowledge to support enterprises in implementation. Once the effectiveness is demonstrated, it will generate a positive ripple effect, encouraging other enterprises to follow suit. Only then will government policies truly take root in practice.

5. Recommendations to promote the implementation of policies to support the exploitation of patents to serve innovation of support industry enterprises in Vietnam

From the synthesis analysis of the current situation of patent exploitation and application activities of enterprises and policy implementation, *the effectiveness of this activity is not high, as supporting industry enterprises have their own specific characteristics*. Therefore, policies need to have appropriate support points to ensure effectiveness when implemented. The implementation of policies regarding patent exploitation and application in supporting industry enterprises still faces many difficulties and shortcomings, with numerous issues needing to be addressed, especially in terms of enterprise awareness. It is necessary to propose, adjust, and supplement policies to enhance practicality and effectiveness.

The proposals focus on two target objectives: first, to recommend policy measures that support industry enterprises in the exploitation and application of patents for innovation; second, to propose solutions and recommendations that promote more effective implementation of these policies.

5.1. Recommended policy measures to support industry enterprises in the exploitation and application of patents for innovation

Most of the supporting industry enterprises are small and medium-sized enterprises. If the technical and technological issues derived from inventions are paid attention to and effectively implemented, they will contribute to shortening the research time, planning product development orientation, analyzing competitors, developing markets, and promoting innovation activities of enterprises.

Specific proposals:

*First, enhance the dissemination of intellectual property knowledge, including methods for exploiting intellectual property in general, and inventions, through training programs ranging from basic to advanced levels. These efforts aim to raise the enterprise's awareness and capacity in effectively exploiting and applying patents. The way of implementation of this measure is through the *National Programs on Intellectual Property Development to 2030* (approved by the Prime Minister); it is necessary to supplement and update the above proposed contents into the Program.*

Second, support enterprises in accessing patent databases through intermediary organizations, whether state-run or private. Provide guidance on methods and approaches for utilizing information sources related to technical solutions, know-how, and technological processes. Help enterprises combine their research results with exploited information to propose new creative ideas in product research and development, to improve quality, reduce product costs, and better meet customer and market needs.

Third, provide supporting industry enterprises with the necessary resources to facilitate the easier deployment of patent exploitation and application to their production and business activities.

Specifically:

- Support human resources with professional qualifications in the field of patent information exploitation activities, effectively applying exploited information in specific activities on technology development, new products for enterprises;
- Support financial resources through State support programs on intellectual property exploitation and development;
- Support infrastructure such as patent databases, servers, and sufficient resources for the exploitation and application of patents in enterprises.

5.2. Recommendations to promote the policy's implementation for supporting industrial enterprises in exploiting and applying patents

In the analysis of the current situation of implementing policies on exploiting and applying patents in industrial enterprises, in general, *the effectiveness of implementing this policy is still not high*; the surveyed enterprises do not have much information about the support policies that they are also beneficiaries of. The factors affecting this activity also point out the reasons leading to the low effectiveness of policy implementation.

Specific policy recommendations:

Firstly, it is necessary to introduce additional measures to support the communication of intellectual property (IP) policies in general, and specifically, policies that promote the exploitation and application of patents for supporting industry enterprises in Vietnam. Efforts should be made to enhance the dissemination of policy information through mass media channels, leveraging the rapid delivery capabilities of both official and unofficial platforms (such as newspapers, radio, television, and social media) to ensure that policy objectives reach enterprises swiftly and in a timely manner, enabling them to grasp, understand, and proceed with registration and implementation.

Secondly, it is essential to strengthen and concretize support policies that enable supporting industry enterprises to participate in National Programs focused on the exploitation and development of intellectual property assets. This includes assistance in training qualified personnel in patent exploitation, applying technical information and technological know-how derived from patents to do research and the development of new technologies and products. Enterprises that achieve technological and product innovation based on patent exploitation should be given support and incentives to evolve into science and technology enterprises, thereby becoming eligible for further enjoying preferential incentives.

Thirdly, it is necessary to enhance the role and responsibility of agencies and organizations responsible for implementing and enforcing policies related to the exploitation and application of inventions within supporting industry enterprises. These entities - whether at the central or local level - should be assigned the duty of developing implementation plans, disseminating policy information on intellectual property exploitation in general, and patents to businesses. They must also be responsible for monitoring and inspecting policy enforcement, conducting quarterly and annual evaluations, and proposing recommendations to improve the policy framework.

6. Conclusion

From the above analysis, it is evident that the supporting industry (SI) plays a vital role in Vietnam's economy. In the current context, many products and goods supplied by SI enterprises are deeply integrated into both domestic and global supply chains. At the same time, production capabilities and technological levels are steadily improving, driving a strong demand for innovation within enterprises. In addition to importing machinery, equipment, and technology, businesses are increasingly focusing on in-house research and product development. As shortening the time required for research and developing new products becomes a priority, the role of patent information exploitation is becoming increasingly critical.

This article has examined the current state of patent exploitation and application among supporting industry (SI) enterprises in Vietnam, including those with foreign direct investment (FDI). Despite various government support policies, the actual effectiveness has yet to meet expectations. The primary reasons include limitations in intellectual property (IP) education and awareness, a lack of comprehensive patent data sources, and insufficient implementation resources, such as human capital, financial support, and technical infrastructure.

In addition, the article highlights various factors affecting the effectiveness of these activities, stemming from both objective and subjective causes. Policy implementation still faces significant gaps, such as ineffective communication efforts, support programs lacking a clear focus, and the absence of dedicated units responsible for monitoring and evaluation.

Based on the above analysis, the article offers several recommendations to support industry (SI) enterprises in enhancing the effectiveness of patent exploitation and application in their production and business activities. At the same time, it proposes policy solutions to address implementation shortcomings, thereby strengthening the innovation capacity of enterprises.

In future studies, the scope of the survey will be expanded to include start-up enterprises, aiming to provide a more comprehensive view of patent exploitation and application activities in the current socio-economic development context, which is increasingly driven by science, technology, innovation, and digital transformation./.

REFERENCES

1. The law on Intellectual Property was amended in 2022.
2. Decree No. 80/2021/ND-CP dated August 26, 2021, of the Government detailing and guiding the implementation of an article of the Law on Support for Small and Medium Enterprises.
3. Resolution No. 58/NQ-CP dated April 21, 2023, of the Government on several key policies and solutions to support enterprises to proactively adapt, recover quickly, and develop sustainably by 2025.
4. Decision No. 130/QĐ-TTg dated January 27, 2021, Promulgating the National High-Tech Development Program to 2030.
5. Decision No. 138/QĐ-TTg dated January 26, 2022, of the Prime Minister on Amending and supplementing several articles of Decision No. 1851/QĐ-TTg dated December 27, 2018, of the Prime Minister on approving the Project on Promoting the transfer, mastery and development of technology from abroad into Vietnam in priority sectors and fields for the period up to 2025, with a vision to 2030.
6. Decision No. 418/QĐ-TTg dated April 11, 2012, of the Prime Minister approving the strategy for science and technology development for the period 2011 - 2020.
7. Decision No. 844/QĐ-TTg dated May 18, 2016, of the Prime Minister approving the Project to Support the National Innovation and Startup Ecosystem to 2025.
8. Nguyen Huu Can (2017). *"Theoretical and practical research on the study of the level of patent use in some industrial sectors in Vietnam"*, Ministry-level scientific research project, 2017. (Registration number 2017-60-084).
9. Nguyen Huu Can (2018). *"Research on determining the contribution regime of Vietnam's GDP growth regime"*, Ministry-level scientific and technological research project (registration number: 2018-60-179).
10. Nguyen Huu Xuyen (2017). *"Research on assessing the current situation and proposing solutions to exploit inventions in some manufacturing industries with competitive advantages in Vietnam"*, Ministry-level scientific and technological research project (registration number: 2017-60-329).
11. Vu Thi Thanh Huyen (2018). *"Developing supporting industries to improve productivity and efficiency of the economy"*, Journal of Economic Sciences - No. 6(04), pp.61-76.
12. Vu Thi Thanh Huyen, Tran Viet Thao (2022). *"Factors affecting the development of supporting industries in Vietnam's electronics industry"*, Journal of Economics and Development, No. 295, January 2022, pp.40-50.
13. Mayank Singh, Arindam Pal, Lipika Dey, Animesh Mukherjee (2020). *"Innovation and Revenue: Deep Diving into the Temporal Rank-shifts of Fortune 500 Companies"*. CoDS COMAD 2020, January 5-7, 2020, Hyderabad, India.
14. Xiao, L., Yang, M., & Zheng, Y., (2021). *"How do SMEs leverage patenting for innovation performance? The mediating role of exploration and exploitation"*, Technovation, p.108-115, 102327
15. Lee, S., & Park, G. (2020). *"Patent commercialization strategy and innovation performance in small and medium-sized enterprises"*, Journal of Business Research, No. 113, p.269-277.
16. Graham, S. J. H., & Vishnubhakat, S. (2019). *"The role of patent quality and litigation in SME innovation"*, Research Policy, 48(6), 103725.
17. Hottenrott, H., & Thorwarth, S., (2019). *"How does patent policy affect innovation? Evidence from the German "Gebrauchsmuster" reform"*, Research Policy, 48(2), p.414-432.
18. Bader, M. A., & Park, S. O (2019). *"Patenting motives and their impact on innovation performance in small and medium-sized enterprises (SMEs)"*, International Journal of Innovation Management, 23(05), 1950040.