

Original Paper

Challenges and Countermeasures in Intellectual Property Management for Small and Medium Enterprises

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Abstract

Small and medium-sized enterprises (SMEs) face numerous challenges in intellectual property (IP) management, including limited resources, insufficient expertise, and weak awareness. However, IP management is crucial for enhancing innovation and competitiveness in SMEs. This paper analyzes the main challenges SMEs encounter in IP management and proposes corresponding strategies based on their practical situations. Measures such as raising IP management awareness, strengthening IP protection, allocating resources effectively, utilizing external support, and optimizing management systems are suggested to help SMEs better manage their IP and enhance their market competitiveness. The paper aims to provide systematic and actionable IP management recommendations for SMEs to promote their innovative development.

Keywords

SMEs, Intellectual property management, Innovation, Competitiveness, Challenges and strategies

1. Introduction

Against the backdrop of rapid global economic development, intellectual property has become a vital component of corporate competitiveness. For SMEs in particular, effective IP management not only protects their innovative achievements but also enhances their market competitiveness and sustainable development capacity. However, SMEs often face numerous challenges in IP management, such as insufficient resources, weak management awareness, and lack of professional knowledge. These issues seriously constrain the development and innovation of SMEs. This paper aims to explore the main challenges SMEs face in IP management and propose corresponding strategies to help SMEs improve their IP management levels and achieve better development.

2. The Importance of Intellectual Property Management for SMEs

2.1 Promoting Innovation

Intellectual property management plays a crucial role in the modern economy, especially for SMEs, where its role in promoting innovation is particularly significant. Firstly, through IP protection mechanisms, companies can ensure that their innovative achievements are not illegally used or copied by others, thereby maintaining their technological lead. For example, patent protection not only ensures exclusive rights to technology for a certain period but also prevents competitors from rapidly entering the market through imitation, thus preserving the company's market share. Secondly, clear IP protection can also stimulate a company's enthusiasm for innovation. When companies realize that their research and development efforts can be legally protected and bring economic benefits, they are more willing to invest in new technology development and product innovation. This positive attitude fosters technological progress and the introduction of new products. Furthermore, systematic IP management can establish a comprehensive innovation incentive mechanism, such as setting up innovation awards and clarifying IP ownership, thereby encouraging employees to actively participate in innovation activities and forming a positive innovation culture. Additionally, the commercialization of IP, such as technology transfer and patent licensing, can transform innovative achievements into economic benefits, providing extra funds for further research and business expansion. These measures not only drive technological advancement but also enhance market competitiveness and economic benefits.

2.2 Enhancing Market Competitiveness

Effective IP management significantly enhances a company's market competitiveness. Firstly, having IP rights can elevate a company's market position. By protecting its unique technologies and products, a company can gain a technological advantage in the market. For example, a company with patented technology can introduce products with unique features, attracting more consumers and partners. Secondly, the registration and protection of trademarks and patents help establish and maintain a company's brand image. By registering trademarks to protect brand identities, companies can enhance customer trust in their products and services, thereby improving market recognition and reputation. This enhancement of brand value not only attracts more customers but also expands market share. Additionally, IP management helps prevent infringement by competitors. Through legal actions and enforcement, companies can combat counterfeit and substandard products in the market, reduce economic losses from infringement, and ensure market legal rights. Companies with core patent technologies can establish technological barriers to prevent competitors from entering the market, thereby reducing competitive pressure and maintaining a leading market position. Companies with their own IP also have greater negotiation power in technological and business collaborations, gaining more resources and commercial opportunities to further expand market influence.

2.3 Promoting Sustainable Development

IP management is crucial for the sustainable development of enterprises, driving long-term growth through providing competitive advantages, maximizing economic benefits, enhancing risk prevention

capabilities, and improving brand value. Firstly, through continuous technological innovation and IP protection, companies can maintain long-term competitive advantages. By continuously updating patent technologies and improving products, companies can stay ahead in the market and continually introduce products and services with unique advantages. Secondly, the commercialization of IP, such as patent licensing and technology transfer, can turn innovative achievements into tangible economic benefits, providing funding for further R&D, market expansion, and business development, thus maximizing economic benefits. Additionally, a well-established IP management system enhances a company's risk prevention capabilities. By preventing infringement by competitors and reducing economic losses and legal risks from IP disputes, companies can operate more stably. For example, through enforcement actions, companies can mitigate the impact of infringing products on their business, thus strengthening risk prevention capabilities. Finally, companies with their own IP have higher authority and credibility in the market, winning customer trust and loyalty, enhancing brand value and market reputation. By continuously optimizing IP strategies, companies can adapt to market changes and technological advancements, maintaining long-term innovation capabilities and market competitiveness, thereby promoting their sustainable development.

3. Challenges Faced by Small and Medium-Sized Enterprises in Intellectual Property Management

3.1 Limited Resources

The primary challenge small and medium-sized enterprises (SMEs) face in intellectual property (IP) management is limited resources. Firstly, in terms of funding, SMEs often lack the financial capacity to invest in IP application, maintenance, and protection. The IP application process is complex and costly, including patent application fees, trademark registration fees, and subsequent annual fees and legal costs, which impose a heavy burden on resource-strapped SMEs. Secondly, regarding human resources, SMEs are usually smaller in scale and often lack dedicated departments or personnel for IP management. Most SME employees are responsible for daily operations and must also handle IP-related tasks, making it difficult to ensure professionalism and effectiveness. Additionally, SME management and staff often lack the professional knowledge and experience required for IP management, making it challenging to develop and implement effective IP strategies. Moreover, SMEs also have limited access to information resources related to IP management, such as the latest IP policies, laws, and market dynamics, which affects the effectiveness of their IP management. In summary, limited resources create significant difficulties for SMEs in IP management, preventing systematic and effective IP protection and management, and impacting their innovation capabilities and market competitiveness.

3.2 Insufficient Expertise

Insufficient expertise in IP management is another significant challenge for SMEs. Firstly, many SMEs lack specialized IP management personnel. Effective IP management requires knowledge in law,

technology, and business, but due to resource and scale limitations, SMEs find it challenging to attract and cultivate such multifaceted talent. Secondly, SMEs often have limited understanding and management capabilities regarding IP. Some businesses underestimate the importance of IP, viewing it as an issue only relevant to large companies, which leads to a lack of systematic and scientific approach in practical operations. Additionally, SMEs may face issues such as poor management and strategic errors in IP protection. For example, due to a lack of expertise, companies may miss critical patent applications for key technologies or fail to take effective legal measures in responding to infringement disputes. Furthermore, SMEs may also lack in IP layout and planning, failing to integrate IP management closely with their innovation development strategy, which results in underutilized potential value of IP. Insufficient expertise not only affects the effectiveness of IP protection but can also place SMEs at a disadvantage in IP disputes, increasing legal risks and economic losses.

3.3 Weak Awareness

Another major challenge faced by SMEs is weak awareness of IP management. Firstly, some SMEs do not fully recognize the importance of IP, viewing IP protection merely as a legal matter rather than a strategic resource for business development. This lack of awareness leads to neglect of IP management in daily operations and failure to establish a comprehensive IP management system. Secondly, when formulating business strategies, SMEs often focus on market expansion, product sales, and cost control, while neglecting IP protection and management, resulting in delayed IP management efforts. Additionally, employees within SMEs may lack awareness of IP protection. Due to a lack of training and awareness campaigns, employees may overlook basic IP protection requirements during research, production, and sales processes, potentially inadvertently disclosing core technologies and business secrets. Moreover, SMEs often lack proactivity and capability in addressing IP infringement, making it difficult to effectively protect their legitimate rights. Weak awareness not only puts SMEs in a passive position in IP protection but also affects their innovation motivation and market competitiveness, hindering long-term development.

3.4 Complexity and Frequent Changes in Regulations

Another challenge for SMEs in IP management is the complexity and frequent changes in regulations. IP-related laws and regulations are highly intricate, including patent law, trademark law, copyright law, and more, each with specific rules and procedures. Due to limitations in resources and expertise, SMEs often struggle to fully understand and comply with these regulations, leading to errors in application, maintenance, and protection. For example, during the patent application process, a company might submit incomplete application documents due to inadequate understanding of patent law, leading to rejection or damage to rights. Additionally, frequent changes in IP laws and regulations pose further challenges for legal compliance. New laws or revisions of existing regulations can impact IP application and protection strategies, requiring companies to continuously adjust their IP management measures to remain compliant. For SMEs lacking a specialized legal team, keeping up with and adapting to these changes is a significant challenge. The complexity and frequent changes in

regulations not only increase compliance costs but can also put SMEs at a disadvantage in legal disputes, affecting the effectiveness and efficiency of IP management.

3.5 Internationalization Challenges

With the advancement of globalization, SMEs also face internationalization challenges in IP management. As companies expand their markets beyond national borders, they must address IP laws and policies in different countries and regions. Different countries may have varying IP protection standards and application procedures, requiring companies to understand and comply with local regulations when entering new markets. For instance, patent application procedures and requirements may differ from those in the company's home country, adding an additional burden for SMEs. Additionally, competition in international markets is intense, and companies need to protect their IP in multiple countries, which may involve dealing with infringement lawsuits and legal challenges in various jurisdictions. Handling these cross-border legal issues requires specialized knowledge and resources in international law, which SMEs often lack. To effectively address internationalization challenges, SMEs need to seek assistance from international IP legal experts, develop cross-border IP strategies, and consider working with international IP organizations or partners to protect their rights in the global market. Internationalization challenges not only increase operational costs but can also impact a company's competitiveness and growth potential in the global market.

3.6 Lack of Systematic IP Management

SMEs often face issues related to the lack of a systematic approach to IP management. Effective IP management requires the establishment of systematic processes and mechanisms, including IP application, maintenance, monitoring, and enforcement. However, due to limited resources and expertise, many SMEs lack a systematic IP management framework. They may lack clear processes and standards for IP management, such as non-standardized procedures for patent and trademark applications, leading to issues and errors during the application process. Additionally, the lack of dedicated IP management departments or personnel within the company results in ineffective coordination and oversight of IP matters. Furthermore, monitoring and enforcement of IP rights may also lack systematic approaches, with SMEs failing to take timely and effective measures to address infringement upon discovery. The lack of a systematic approach to IP management not only affects the effectiveness of IP protection but can also lead to increased management costs and legal risks. To overcome these issues, SMEs need to develop and implement a scientific IP management system, establish comprehensive management processes, and ensure effective protection and utilization of IP.

4. Strategies for Enhancing Intellectual Property Management in SMEs

4.1 Enhancing Management Awareness

Enhancing the awareness of intellectual property (IP) management in SMEs is the primary strategy to address their IP management issues. Firstly, improving the understanding of the importance of IP among business leaders and employees through publicity and training is essential. This can be achieved

by organizing specialized IP seminars, training sessions, and workshops, and inviting IP experts and lawyers to explain relevant laws, regulations, case studies, and practical operations, thus increasing the emphasis on IP protection within the enterprise. Secondly, SMEs should incorporate IP management into their strategic planning, setting clear IP management goals and measures. Enterprises can establish dedicated IP management departments or appoint specific personnel responsible for ensuring the orderly implementation of IP management tasks. Furthermore, SMEs should establish comprehensive IP management systems, including detailed procedures and management norms for IP application, maintenance, use, and protection, ensuring that IP management is institutionalized and standardized. Additionally, internal promotion and education can raise employees' awareness of IP protection. Setting up IP reward mechanisms to encourage employees to actively participate in innovation and IP protection can foster a culture of participation. Enhancing management awareness not only strengthens the enterprise's focus on IP protection but also provides a solid guarantee for innovation and development.

4.2 Rational Allocation of Resources

Rational allocation of resources is a crucial strategy for improving the IP management level of SMEs. Firstly, enterprises should allocate funds, human resources, and time effectively according to their actual conditions, with a focus on IP protection and management. Detailed IP budgeting plans should be formulated to ensure sufficient funding for IP applications, maintenance, and legal protection. Secondly, SMEs should strengthen the cultivation and recruitment of IP management talent. By providing internal training and external recruitment, enterprises can build a professional IP management team with the necessary knowledge and practical skills, enhancing their IP management capabilities. Additionally, enterprises can leverage information technology to improve the efficiency and effectiveness of IP management. For example, using IP management software and database systems to systematically manage patents, trademarks, copyrights, etc., and to monitor and maintain various IPs in a timely manner. Moreover, SMEs can establish IP risk management mechanisms, conducting regular IP risk assessments and control measures to reduce losses from IP disputes and infringements. Rational allocation of resources not only enhances IP protection capabilities but also boosts innovation and market competitiveness, providing a solid foundation for long-term development.

4.3 Utilizing External Support

Effectively utilizing external support is an effective approach to enhance the IP management level of SMEs. Firstly, enterprises can take advantage of government policies and incentives. Governments often provide various forms of support, such as IP application subsidies and patent enforcement assistance for SMEs. Enterprises should actively apply for and use these resources to alleviate the cost pressures of IP management. Secondly, SMEs can collaborate with IP service agencies to receive professional IP management support. IP service agencies usually have extensive expertise and practical experience, offering comprehensive services including IP consultation, agency, and litigation, thereby

helping enterprises enhance their IP management levels. Additionally, enterprises can join industry associations and IP alliances to access the latest industry dynamics and information resources. Participating in activities and training organized by industry associations allows enterprises to exchange experiences with other companies and learn advanced IP management methods. Furthermore, enterprises can collaborate with universities and research institutions, leveraging their technological and talent advantages for joint technology research and IP protection. Effectively utilizing external support not only compensates for the lack of resources and expertise in SMEs but also provides additional development opportunities and collaboration platforms, enhancing the IP management level of the enterprise.

5. Optimizing Intellectual Property Management System for SMEs

5.1 Establishing and Improving Management Systems

For SMEs to achieve effective intellectual property (IP) management, it is crucial to establish a scientifically sound and rational IP management system. Developing clear systems helps define responsibilities across departments and positions, ensuring that IP management is systematic and orderly. Specifically, enterprises should focus on the following aspects:

Firstly, set clear overall goals and strategies for IP management, identifying key areas for protection and development in patents, trademarks, copyrights, etc. Secondly, establish processes for IP application and maintenance, including specific steps for patent applications, trademark registration, copyright registration, and other procedures to ensure compliance with established protocols. Additionally, enterprises should set up an IP management committee or dedicated IP management department to oversee all company IP affairs, coordinate inter-departmental cooperation, and address issues that arise during IP management. Furthermore, establish an IP archive management system to systematically register, manage, and maintain patents, trademarks, and other IP assets, ensuring accuracy and completeness of IP information. Finally, create reward and penalty mechanisms for IP management to motivate employees to actively participate in innovation and IP protection and to address any violations of IP management regulations. By establishing a comprehensive IP management system, enterprises can enhance the standardization and efficiency of IP management, maximizing the protection and utilization of their IP resources.

5.2 Strengthening Internal Training

Regular internal training is essential for improving IP management capabilities in SMEs. IP management involves legal, technical, and commercial aspects, and systematic training is necessary for employees to acquire the required knowledge and skills. Firstly, enterprises should regularly invite IP experts, lawyers, or professionals from related institutions to conduct specialized IP training sessions, covering basic concepts of IP, application processes, protection strategies, and infringement responses. Secondly, SMEs can organize internal IP seminars and case study sessions to explore specific IP management issues and solutions in the context of the enterprise, enhancing practical abilities.

Additionally, providing flexible learning resources through online courses and training platforms ensures employees can conveniently access necessary knowledge. Encouraging employees to participate in external IP training and certification programs can further improve their professional skills and qualifications. Strengthening internal training not only improves employees' IP management capabilities but also raises their awareness of IP protection, fostering a culture of involvement and ensuring more efficient and scientific IP management.

5.3 Enhancing Legal Protection

SMEs must emphasize legal protection in IP management by using legal means such as patent applications and trademark registrations to strengthen IP protection and prevent infringements. Firstly, actively applying for patents to protect innovative technologies, products, and processes ensures exclusive market rights. For core technologies and key products, early patent applications are essential to prevent competitors from registering them first. Additionally, prioritizing trademark registration and protection is crucial to prevent infringement and misuse, as trademarks are significant intangible assets that enhance brand recognition and credibility. Secondly, when applying for IP, enterprises should adhere to legal requirements and procedures, ensuring the accuracy and completeness of application documents to avoid rejections due to incomplete or incorrect submissions. Regular maintenance of authorized IPs, including fee payments, renewals, and changes, is also necessary to ensure their continued validity. Furthermore, establishing IP monitoring and warning mechanisms to detect and address infringements promptly can help protect legal rights through litigation and enforcement actions. Overall, strengthening legal protection not only prevents infringements but also enhances the level of IP protection, providing robust legal support for innovation and development.

5.4 Enhancing the Commercialization of IP

To achieve IP commercialization, SMEs should actively explore and develop the market value of their IP assets. Firstly, establish a dedicated IP commercialization team responsible for converting patents, trademarks, and copyrights into actual commercial returns. This includes methods such as technology licensing, patent transfers, and brand authorization to maximize revenue. Enterprises should develop clear IP commercialization strategies, optimizing the use and sales models of IP based on market demand and their own strengths. To advance commercialization effectively, enterprises should conduct market research to understand industry trends and competitors' IP strategies and develop commercialization plans aligned with market trends. Additionally, considering cross-industry collaboration with other companies or research institutions can expand market opportunities and enhance innovation capabilities. During commercialization, attention should be given to IP valuation to ensure reasonable pricing and profit distribution in transactions. By implementing these measures, SMEs can not only increase the economic benefits of their IP but also enhance market competitiveness and drive sustainable development.

5.5 Establishing an IP Risk Management Mechanism

Effective IP risk management is crucial for protecting the innovative achievements of SMEs. Firstly,

identify and assess potential risks in IP management, including patent infringements, trademark squatting, and copyright disputes. Establish a risk assessment mechanism to systematically analyze and predict these risks, and develop preventive measures. To address potential risks, detailed contingency plans should be formulated, covering aspects such as legal litigation, dispute resolution, and risk mitigation, ensuring swift action in case of sudden issues. Additionally, regular IP audits should be conducted to review the protection status and management gaps of existing IPs and adjust management strategies accordingly. Strengthening employee training to enhance their sensitivity to IP risks and response capabilities is also a key component of risk management. By establishing a comprehensive IP risk management mechanism, enterprises can effectively reduce legal disputes and financial losses, protect their legal rights, and ensure long-term stable development.

5.6 Promoting IP Culture

Promoting IP culture is crucial for enhancing overall innovation capability and protection awareness within enterprises. SMEs should create an environment that values IP through various channels and methods. Firstly, improve employees' understanding of IP importance through internal publicity and training, ensuring they grasp the basics of IP protection. Regularly holding IP lectures, seminars, and promotional activities can enhance IP awareness and facilitate internal knowledge sharing and communication. Additionally, establish incentive mechanisms to encourage employees to propose innovative ideas and protect their IP, such as setting up innovation and IP protection rewards to stimulate creativity. Bringing in external experts and consultants can also elevate the professional level of management and employees. Fostering a strong IP culture helps enterprises maintain a competitive edge in the market, promote innovation, and support long-term development.

6. Intellectual Property Commercialization Pathways

6.1 Patent Licensing

Patent licensing is one of the key pathways for SMEs to realize the commercial value of their intellectual property (IP). Through patent licensing, enterprises can authorize other companies to use their patented technologies, thus generating economic returns. First, before engaging in patent licensing, enterprises should conduct a detailed assessment of their patented technologies to understand their market potential and application prospects, and determine the scope and conditions of the license. Enterprises can choose from different types of licensing agreements, such as exclusive, sole, or non-exclusive licenses, depending on the specific situation. Secondly, when signing a patent licensing agreement, enterprises should clearly define the rights and obligations of each party, including payment methods, usage scope, duration, and technical support, to protect both parties' legal rights. Additionally, enterprises should regularly monitor and evaluate the implementation of the license to ensure that the licensee adheres to the terms of the contract, avoiding technology leakage and misuse. Through patent licensing, enterprises can not only gain direct economic benefits but also enhance the market application and visibility of their patent technologies, laying a foundation for further development.

6.2 Technology Transfer

Technology transfer is another important pathway for SMEs to commercialize innovative technologies. Through technology transfer, enterprises can transfer their innovative technologies to other companies, obtaining funding and resources to drive further development. First, before engaging in technology transfer, enterprises should conduct a comprehensive evaluation and packaging of the technology to determine its market value and potential buyers. Enterprises can promote their technological advantages and application prospects to potential buyers through market research and technology showcase events. Secondly, when signing a technology transfer agreement, enterprises should clearly define the details and conditions of the transfer, including the delivery method, transfer price, payment method, and technical training and support, to ensure that the rights and obligations of both parties are clearly defined. Enterprises should also provide detailed explanations of the IP status of the transferred technology to ensure its legality and transferability. Additionally, confidentiality agreements should be emphasized during the technology transfer process to prevent technology leakage and IP infringement. Through technology transfer, enterprises can not only gain direct economic returns but also leverage the resources and market channels of other companies to accelerate technology adoption and achieve a win-win situation.

6.3 Collaborative R&D

Collaborative R&D is an effective pathway for SMEs to commercialize their IP. By collaborating with other companies or research institutions, SMEs can fully utilize the resources and advantages of all parties to jointly develop new technologies and products, achieving mutual benefits. First, when selecting partners, enterprises should consider the partner's technical strength, market resources, and willingness to cooperate, ensuring the smooth progress of the collaboration. Enterprises can find and select partners through technical exchanges, joint project applications, and other methods. Secondly, during the collaborative R&D process, enterprises should clearly define the roles and responsibilities of each party, sign detailed collaborative R&D agreements, and stipulate the rights and obligations, as well as the ownership and sharing of technological 成果, to ensure smooth progress. Additionally, effective communication and coordination mechanisms should be established to address any issues and conflicts that arise during the collaboration, ensuring the progress and quality of R&D. Collaborative R&D allows enterprises to share R&D costs and risks, benefit from the technology and market resources of partners, accelerate technological innovation and product development, and improve competitiveness and market share.

6.4 Brand Licensing

Brand licensing is a way for SMEs to commercialize their trademarks and brand images. Through brand licensing, enterprises can authorize other companies or individuals to use their brand identifiers, obtaining licensing fees or revenue shares. Brand licensing not only increases income but also expands brand influence. When engaging in brand licensing, enterprises should establish clear licensing agreements that specify the scope of brand use, quality standards, licensing fees, and other terms, while

supervising the licensee's brand use to ensure brand image consistency and quality control.

6.5 Patent Pools and Cross-Licensing

Patent pools are collections of patents jointly established by multiple patent holders, allowing patents within the pool to be used freely within certain limits. The establishment of patent pools can reduce patent litigation risks and promote widespread technology application. Enterprises can join existing patent pools or establish their own patent pools for patent sharing and cross-licensing, acquiring patents from other enterprises to advance their own technology development and market application. Cross-licensing involves mutual authorization of patent use between enterprises, allowing them to use each other's patents without paying licensing fees, while also obtaining rights to use their own patents.

6.6 IP Securitization

IP securitization is a method of converting IP assets into financial products. Enterprises can bundle patents, trademarks, and other IP assets to issue IP asset securitization products (such as IP securities, patent bonds, etc.) to raise funds. This method provides financing channels for enterprises and converts the economic value of IP assets into liquid assets. However, enterprises need to conduct detailed asset evaluations and risk management to ensure the legality and market acceptance of securitization products.

6.7 IP Commercialization Consulting

SMEs can also commercialize by providing IP-related consulting services. Enterprises can use their expertise and experience in IP to offer services such as IP strategy planning, application guidance, and rights protection consulting to other companies. This approach not only generates consulting fees but also builds industry reputation and expands business networks.

6.8 Innovation Competitions and Awards

SMEs can organize or participate in innovation competitions and awards to stimulate innovation and market attention. By setting up innovation awards or hosting technology competitions, enterprises can attract innovative talent and projects while leveraging the promotional effects of competitions to enhance market visibility and influence. This approach can lead to innovative 成果 and help build the enterprise's innovation brand image.

6.9 Commercial Cooperation Platforms

Enterprises can create or participate in commercial cooperation platforms related to IP to facilitate IP transactions and collaborations. By establishing or joining these platforms, enterprises can showcase and promote their IP assets, attracting potential buyers, partners, and investors, and achieving marketization of IP. Commercial cooperation platforms typically include online trading platforms, industry exhibitions, IP exchanges, etc.

6.10 Technology Incubators and Accelerators

SMEs can leverage technology incubators and accelerators to advance IP commercialization. These platforms often provide funding, technical support, and market promotion services to help enterprises turn their technologies and IP into marketable products and services. Collaborating with incubators and

accelerators can accelerate technology development and commercialization processes, enhancing market competitiveness.

7. Conclusion

Small and medium-sized enterprises (SMEs) face various challenges in intellectual property (IP) management, but with appropriate strategies and effective management, they can overcome these obstacles and enhance their IP management capabilities. This paper analyzes the current state of IP management among SMEs and proposes specific measures to improve IP management levels. These measures include raising management awareness, allocating resources efficiently, utilizing external support, optimizing management systems, and exploring IP commercialization pathways.

It is hoped that this research will provide valuable insights for SMEs, helping them make significant progress in IP management, thereby enhancing their innovation capabilities and market competitiveness. In future development, SMEs should continue to strengthen their IP management, focus on innovation and protection, and drive sustainable development, making a greater contribution to economic and social progress.

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