
DEVELOPMENT OF PROCEDURES FOR PATENT AND PETTY PATENT APPLICATIONS AMONG RESEARCHERS AT SUAN SUNANDHA RAJABHAT UNIVERSITY

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Abstract

This research aimed to examine the current conditions and obstacles in the patent and petty patent application processes of researchers at Suan Sunandha Rajabhat University. It also sought to analyze factors related to the efficiency and success of the process, including human resource factors, process-related factors, organizational and policy factors, external factors, and technology and support system factors. The study focused on developing a systematic approach to improve the process so that it becomes faster, more transparent, and sustainably applicable. The study population consisted of 50 participants, including lecturers, staff, coordinators, and individuals seeking consultation on patents and petty patents. The data collection instrument was a questionnaire, and the data were analyzed using basic statistics, namely percentages, means, and standard deviations. The results showed that the project was able to develop an end-to-end process covering all stages from upstream to downstream. This included a screening process starting from the analysis of suitable works, document preparation, novelty and inventive step examination, application drafting, deadline management (docketing), and status tracking, through to technology transfer. These improvements enhanced the efficiency of the patent and petty patent application process and increased opportunities for the commercialization of research outputs.

Keywords: Process development, patents and petty patents, research outputs, technology transfer

Introduction

In the current era, research and innovation serve as key mechanisms for national development, as they enhance competitive advantage, add economic value, and improve the quality of life of the population. This aligns with Thailand's transition toward a knowledge- and creativity-based economy under the Thailand 4.0 policy. However, the commercialization of research outputs requires effective intellectual property protection, particularly through patents and petty patents, to prevent imitation and strengthen competitiveness. According to the Global Innovation Index 2021, Thailand ranked 43rd globally and 3rd in ASEAN, reflecting the country's innovation potential, especially in terms of private-sector investment in research and development, which is a crucial driver of sustainable economic growth.

Nevertheless, the patent and petty patent application process in Thailand remains challenging for researchers and higher education institutions due to its complexity, lengthy procedures, and the need for legal and regulatory expertise. Suan Sunandha Rajabhat University, as a higher education institution with a significant role in producing research for local and national development, has continuously supported research and innovation by faculty

members, staff, and students. Despite this support, limitations and obstacles persist in the process of applying for intellectual property protection. These include insufficient knowledge and understanding of procedural steps, document preparation, time management, and the availability of adequate support systems. Moreover, fostering and enhancing the capabilities of innovation-driven entrepreneurs, as well as developing an innovation ecosystem conducive to creating and transforming innovation into economic value and social impact, are essential. It is widely recognized that rapid advancement in innovation requires a strong private sector, with the government serving as a critical support mechanism, to enable Thailand to escape the middle-income trap and progress toward becoming a high-income country through research and innovation.

Therefore, the development of an effective patent and petty patent application process for researchers at Suan Sunandha Rajabhat University is essential to establish a systematic, clear, and efficient framework. This framework should encompass the screening of high-potential research outputs, novelty examination, application drafting, progress tracking, and technology transfer. The present study is thus significant in contributing to the tangible improvement of the university's intellectual property management mechanisms.

Research Objectives

1. To examine the current conditions and obstacles in the patent and petty patent application process of researchers at Suan Sunandha Rajabhat University.
2. To analyze factors related to the success and efficiency of the patent and petty patent application process.
3. To develop practical and appropriate guidelines for improving the patent and petty patent application process that can be effectively implemented.

Scope of Research

This study is qualitative research aimed at examining the current conditions, problems, obstacles, and improvement approaches of the patent and petty patent application process for researchers at Suan Sunandha Rajabhat University. The study emphasizes the collection of in-depth data from key informants through in-depth interviews, to obtain information reflecting opinions, experiences, and recommendations from stakeholders directly involved in the process.

Population and Sample

The target group of this research consists of approximately 15–20 individuals involved in the patent and petty patent application process within Suan Sunandha Rajabhat University. The participants are categorized into three main groups as follows:

1. Researchers and academic staff who have created research or innovation outputs
 - Approximately 8–10 participants
 - Individuals who have previously applied for patents or whose research outputs have potential for patent or petty patent protection
2. Faculty/College coordinators
 - Approximately 3–5 participants
 - Personnel responsible for coordination and documentation related to patent and petty patent applications
3. Faculty/College administrators
 - Approximately 2–3 participants

- Individuals involved in policy formulation and in providing support frameworks for intellectual property management within the university

Literature Review

Thanawat Saengson (2023) conducted a study on *Guidelines for Promoting Intellectual Property Development to Enhance the Efficiency of Trademark Registration in Thailand* at the Faculty of Political Science, Chulalongkorn University. The findings indicate that future approaches to promoting trademarks based on organizational efficiency concepts include:

1. Organizational structure, such as establishing unified organizational policies, implementing intellectual property promotion activities in line with the Department's four core missions, and enhancing intellectual property knowledge.

2. Human resources, including increasing personnel and workforce capacity, revising performance indicators, and adding translation units within the organization; and

3. Technology, emphasizing the use of supporting tools such as AI-based examination systems, along with ensuring enough knowledgeable personnel to effectively perform tasks.

Chanida Yubonsai (2025) studied *Intellectual Property Management of Research and Innovation Outputs at Nakhon Phanom University*. The study found that while the number of applications for intellectual property protection has shown an increasing trend, challenges remain due to complex procedures, a lack of knowledge regarding protection processes, and unclear benefit-sharing policies. The findings highlighted the necessity of developing support systems for intellectual property registration, strengthening collaborative networks with external agencies, and promoting the commercialization of intellectual property.

Atchariya Wongburana-wat (2025) conducted a study entitled *Legal Measures to Promote the Use of Patents for Environmental Protection in Thailand* at the School of Law, Mae Fah Luang University. This research examined the use of patent law for environmental protection in both international and Thai contexts through comparative analysis of legal measures and policies in Thailand, the United Kingdom, the United States, and the People's Republic of China. The findings revealed that these countries have implemented patent-related measures to support environmental protection, such as excluding patent protection for inventions that may cause serious environmental harm and adopting policy measures that grant fast-track examination for environmentally friendly inventions. However, the study found that Thailand's existing patent law and incentive measures are insufficient and lack clarity. The research recommended amendments to the Patent Act B.E. 2522 (1979), particularly adding environmentally harmful inventions as grounds for exclusion under Section 9(5), and revising Section 24 to establish a special fast-track channel for environmentally friendly inventions. Additionally, improvements to patent examination guidelines were recommended to ensure clear criteria for assessing environmental impacts.

Thamonwan Komolmet (2025) conducted a study titled *Development of Educational Media to Enhance Understanding of Intellectual Property Application Guidelines at Dhonburi Rajabhat University*. The objectives were to examine the characteristics of research requiring intellectual property protection, analyze formats for developing application guidelines, and develop practical guidelines for intellectual property protection within the university. The research population consisted of university personnel, with questionnaires used as research instruments. Data were analyzed using frequency and percentage statistics. The findings revealed that:

1. Most research outputs from the Faculty of Humanities and Social Sciences, Faculty of Management Sciences, and Faculty of Education were copyright works (literary and artistic),

while outputs from the Faculty of Science and Technology were primarily patents and petty patents.

2. The level of intellectual property knowledge was moderate, indicating a need for enhanced education on types of intellectual property, required documentation, registration timelines, application writing, and awareness of relevant laws; and

3. Guidelines for improving intellectual property applications included: (3.1) developing clear procedural details, timelines, and supporting documents through institutional information systems in the form of media, presentations, or flowcharts; (3.2) expanding channels for submitting application documents via information systems; (3.3) organizing training programs on basic intellectual property knowledge, patents/petty patents, and application drafting; (3.4) promoting communication channels with intellectual property officers; and (3.5) enhancing the expertise of university IP officers to develop a systematic, proactive, and more efficient IP management process.

Kamonwan Yoowattana (2025) studied *Legal Limitations on Benefit-Sharing Allocation* at the Faculty of Law, Suan Sunandha Rajabhat University. The study found that university personnel place significant importance on establishing clear, appropriate, and concrete guidelines for benefit-sharing derived from intellectual property, research, and innovation management. There is a strong demand for increased access to information and knowledge for personnel and relevant units, as well as transparency in accessing necessary and related data. These findings align with Jeremy Bentham's Utilitarianism theory, which posits that morally right actions are those that generate the greatest happiness or benefit for the greatest number of people. The core principle, known as the *Greatest Happiness Principle*, emphasizes evaluating actions based on their outcomes rather than intentions. Actions are considered ethically justified if they maximize overall happiness and satisfaction among all stakeholders, underscoring the importance of equitable consideration of impacts on everyone involved.

Research Methodology

This study is qualitative research aimed at examining the current conditions, problems, obstacles, and improvement approaches of the patent and petty patent application process for researchers at Suan Sunandha Rajabhat University. The study emphasizes the collection of in-depth data from key informants through in-depth interviews to obtain insights reflecting opinions, experiences, and recommendations from stakeholders directly involved in the process.

Population and Target Groups

The target group consists of approximately 15–20 individuals involved in the patent and petty patent application process within Suan Sunandha Rajabhat University. The participants are categorized into three main groups as follows:

1. Researchers and academic staff who have produced research/innovation outputs
 - Approximately 8–10 participants
 - Individuals who have previously filed patent applications or whose research outputs have potential for patent protection
2. Faculty/College coordinators
 - Approximately 3–5 participants
 - Personnel responsible for coordination and document processing related to patents

3. Faculty/College administrators

- Approximately 2–3 participants
- Individuals responsible for policy setting and support mechanisms for intellectual property-related work

The participants will be selected using purposive sampling to obtain in-depth information aligned with the research objectives.

Research Instruments

The research instrument includes an in-depth interview guide, consisting of open-ended questions to allow informants to freely express opinions and share experiences, such as:

- Current procedures for patent application processing
- Problems and obstacles encountered
- Support from internal units
- Approaches for improving and developing the process

Data Collection

Data will be collected during January–September 2025, following these steps:

1. Review relevant documents, laws, regulations, and operational guidelines related to patents and petty patents from the Department of Intellectual Property, as well as university regulations of Suan Sunandha Rajabhat University.
2. Develop and validate the in-depth interview guide by three experts to improve appropriateness for the research context.
3. Conduct in-depth interviews with key informants from each group.
4. Conduct focus group discussions to exchange opinions and recommendations for process development.
5. Verify data accuracy through member checking and data triangulation (cross-checking information from multiple sources).

Data Analysis

Data will be analyzed using content analysis, with the following procedures:

1. Transcribe the in-depth interviews and focus group discussions on detail.
2. Read and review all data to identify key issues.
3. Categorize data into major themes, including:
 - Current conditions of the process
 - Problems and obstacles
 - Development and improvement approaches
4. Analyze relationships among themes to develop conclusions and a systematic improvement framework.
5. Validate the analysis results through review by external experts.

Research Results

The research entitled “Development of the Patent and Petty Patent Application Process for Researchers at Suan Sunandha Rajabhat University” aimed to:

1. Examine the current conditions of the patent and petty patent application process for researchers at Suan Sunandha Rajabhat University.
2. Analyze the problems and obstacles encountered during the implementation of the process.

3. Propose guidelines for developing and improving the process to enhance its efficiency.

The findings from the qualitative research, based on in-depth interviews and focus group discussions with 18 informants, can be summarized as follows:

1. Current Conditions of the Patent and Petty Patent Application Process Suan Sunandha Rajabhat University has an operational system for patent applications to a certain extent. A central unit, the Intellectual Property Management and Business Incubation Office, is responsible for providing consultation and conducting preliminary document reviews before submitting applications to the Department of Intellectual Property. However, the process has not yet been fully developed into a comprehensive one-stop service system and lacks effective integration among internal university units. As a result, delays occur at certain stages of the process.

2. Problems and Obstacles

The key problems identified include:

- Researchers' limited knowledge and understanding of patent laws and application procedures.
- Unclear coordination among internal units, leading to duplication of information.
- An outdated and non-digital system for tracking application status.
- Insufficient budget support for documentation costs and application fees.
- Low researcher motivation, as the process is perceived as lengthy and does not provide immediate returns.

3. Guidelines for Process Development and Improvement

The main recommendations proposed by the informants include:

- Establishing a one-stop intellectual property service center to provide end-to-end support, from consultation and invention evaluation to registration tracking.
- Enhancing researchers' knowledge through hands-on training workshops on patent drafting and invention disclosure.
- Utilizing digital technologies for management purposes, such as an online database system for tracking application status.
- Creating a dedicated funding scheme to support researchers with patent application expenses.
- Formulating clear internal policies, such as requiring research projects funded by the university to undergo feasibility assessment for intellectual property protection.

Discussion

The findings of this study are consistent with the research of Kamonwan Yoowattana (2025), which found that personnel at Suan Sunandha Rajabhat University place significant importance on establishing clear, appropriate, and concrete guidelines for benefit-sharing derived from intellectual property, research, and innovation management. There is a strong demand for increased accessibility to information and knowledge for personnel and related units, as well as for open access to necessary and relevant information. These findings align with the Utilitarianism theory proposed by Jeremy Bentham, which explains that morally right actions are those that generate the greatest happiness or benefit for the greatest number of people. The core principle of this theory, known as the Greatest Happiness Principle, emphasizes evaluating actions based on their impact on the happiness and suffering of those involved. According to this principle, an action is considered morally right if it maximizes overall happiness or satisfaction for the greatest number of people. Utilitarianism prioritizes

the outcomes of actions over intentions, suggesting that actions with good intentions but unfavorable outcomes are not ethically justified. Decision-making, therefore, must consider the impacts on all stakeholders equally.

In addition, the lack of patent-related knowledge among researchers remains a significant barrier to the commercialization of research outputs. This finding is consistent with the perspective of Gong et al. (2020), who noted that limited understanding of patent application processes and legal requirements impedes the effective transition from academic inventions to commercial products in higher education institutions. Moreover, research on the application status of enterprise patent information in innovative environments has highlighted that many organizations exhibit weak awareness and limited practical use of patent information systems, which restricts their ability to protect innovations and leverage patent data for technological development and competitive advantage (Lin & Kerdpitak, 2024). Collectively, these studies indicate that strengthening researchers' access to and understanding of patent information, along with establishing robust intellectual property support systems, are crucial steps for improving patent application efficiency and enabling successful commercialization of research outputs. Enhancing these capacities will, in turn, contribute to strengthening the university's image as an institution of innovation and research-driven commercialization.

Recommendations

1. Policy Recommendations

1.1 The university should establish clear intellectual property management policies, particularly regarding the protection of research outputs.

1.2 A one-stop intellectual property service center should be established to facilitate and support researchers throughout all stages of the process.

1.3 Dedicated funding should be allocated to support patent and petty patent applications in order to encourage a higher number of filings.

2. Practical Recommendations

2.1 Organize hands-on training workshops on patent drafting and the application/registration procedures.

2.2 Develop a digital database system for tracking the status of patent applications within the university.

2.3 Create user-friendly forms and operational guidelines/manuals for researchers.

2.4 Provide patent experts or professional consultants to offer guidance throughout the entire process.

3. Recommendations for Future Research

3.1 Conduct comparative studies on patent management models of other universities in Thailand and abroad to develop approaches suitable for the SSRU context.

3.2 Conduct quantitative research to measure satisfaction levels and/or the effectiveness of the process after improvements are implemented.

3.3 Examine the economic and social impacts of researchers' patent applications within the university to assess long-term policy value.

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