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Managing intellectual property protection in organisations: case study of Lubuskie Voivodeship, Poland

Zarządzanie ochroną własnością intelektualną w organizacjach: Studium przypadku województwa lubuskiego, Polska

ABSTRACT

This article analyses the state of intellectual property (IP) protection management in Polish enterprises, using the Lubuskie Voivodeship as a case study. Based on a survey of 27 firms in a technology-oriented business district, the study demonstrates that, despite a relatively high level of awareness of institutions responsible for IP protection, the practical use and strategic integration of intellectual property into management processes remain limited. The findings indicate that only a small proportion of enterprises actively incorporate IP into managerial decision-making, focusing primarily on traditional forms of protection such as trademarks and inventions. The identified barriers include insufficient organisational resources, limited competencies, and a lack of systematic legal support. In response to these conditions, the article proposes a multi-stage, pro-innovative support model for small and medium-sized enterprises, covering the process from intellectual property auditing and risk assessment to strategy implementation and commercialisation. The conclusions suggest that systematic education and the strengthening of regional support structures are key prerequisites for transforming intellectual property potential into a sustainable competitive advantage at the regional level.

Keywords: Intellectual property management, SMEs, Lubuskie Voivodeship, IP support model, commercialisation.

INTRODUCTION

Intellectual property plays an increasingly important role in the development of a knowledge-based economy founded on inno-

STRESZCZENIE

Artykuł analizuje stan zarządzania ochroną własnością intelektualną (IP) w polskich przedsiębiorstwach na przykładzie województwa lubuskiego. Na podstawie badania ankietowego przeprowadzonego wśród 27 firm zlokalizowanych w dzielnicy technologicznej wykazano, że pomimo relatywnie wysokiego poziomu świadomości istnienia instytucji odpowiedzialnych za ochronę IP, praktyczne wykorzystanie oraz strategiczna integracja własności intelektualnej w procesach zarządczych pozostały ograniczone. Wyniki badania wskazują, że jedynie niewielka część przedsiębiorstw aktywnie uwzględnia IP w zarządzaniu, koncentrując się głównie na tradycyjnych formach ochrony, takich jak znaki towarowe i wynalazki. Zidentyfikowane bariery obejmują przede wszystkim niedostateczne zasoby organizacyjne, ograniczone kompetencje oraz brak systemowego wsparcia prawnego. W odpowiedzi na te uwarunkowania zaproponowano wieloetapowy, proinnowacyjny model wsparcia dla sektora MŚP, obejmujący proces od audytu własności intelektualnej i oceny ryzyka po wdrożenie strategii i komercjalizację. Wnioski wskazują, że systematyczna edukacja oraz wzmacnianie regionalnych struktur wsparcia stanowią kluczowe warunki przekształcania potencjału własności intelektualnej w trwałą przewagę konkurencyjną regionu.

Słowa kluczowe: zarządzanie własnością intelektualną, MŚP, województwo lubuskie, model wsparcia IP, komercjalizacja.

vation and intangible resources of enterprises. Intellectual property assets, such as inventions, trademarks, industrial designs,

and know-how, constitute a significant element of firms' competitive potential and influence their ability to create and implement innovations. In the Polish economy, where small and medium-sized enterprises account for a substantial share of the business landscape, effective management of intellectual property protection is particularly important. The level of use and protection of intellectual property within enterprises directly affects regional innovativeness and their capacity for sustainable socio-economic development. Regions in which enterprises actively identify and protect their intangible assets demonstrate higher growth potential and greater resilience to market changes. For this reason, the analysis of intellectual property protection management practices at the regional level constitutes an important element in assessing the conditions for the development of an innovation-driven economy in Poland.

1. LITERATURE REVIEW

Intellectual property (IP) protection and management have been widely examined in the international literature, which consistently emphasises the role of IP in fostering innovation, competitiveness, and economic growth. Prior studies highlight that effective identification, protection, and strategic use of intellectual assets contribute not only to firm-level performance but also to broader innovation systems. Despite this extensive body of research, empirical studies focusing on the Polish context remain relatively limited, particularly at the regional and organisational levels. This gap is noteworthy given Poland's evolving innovation ecosystem and the growing importance of understanding how enterprises manage IP within specific regional settings.

The growing importance of intellectual property in contemporary economic systems has been documented in recent empirical research. Robotko et al. (2023) apply machine learning techniques to analyse the relationship between trademark applications and GDP growth, identifying a statistically significant correlation, particularly in Poland. Their findings suggest that IP-related activity should be viewed not only as a legal instrument but also as a factor influencing macroeconomic performance. This perspective reinforces the understanding of intellectual property as an integral component of innovation-driven economic development.

From a managerial perspective, Dereń and Skonieczny (2023) argue that effective IP resource management plays a central role in maintaining the competitiveness of small and medium-sized enterprises. Their analysis highlights the need to integrate IP considerations into business planning and organisational models, thereby supporting innovation and market differentiation. Similar conclusions emerge from sector-specific studies. Jankowska (2023), in her comparative analysis of intellectual property norms in the fashion industry, demonstrates how copyright and industrial design protection function as strategic tools for brand development. At the same time, the fashion sector highlights broader challenges in enforcing IP rights, particularly in creative and design-intensive industries.

Recent legislative developments have further reshaped the European intellectual property landscape. Veugelers and Harhoff (2023) analyse the implications of the Unitary Patent system introduced in the European Union, pointing to potential benefits in terms of cost reduction and procedural harmonisation. However, their study also identifies new challenges, including increased complexity and the risk of forum shopping, which may disproportionately affect SMEs with limited legal resources. These findings underline the importance of aligning legal instruments with the actual capacities of enterprises operating within innovation systems.

Fiscal instruments also play an important role in shaping firms' incentives to protect and commercialise intellectual property. Bialek Jaworska et al. (2023) examine the effects of IP Box regimes in the gaming industry and demonstrate that tax incentives linked to IP protection can stimulate innovation and revenue growth. However, these effects often materialise with a time lag. Their results support the argument that IP strategies should be coordinated with fiscal policy instruments to enhance long-term innovation outcomes.

The evolving nature of intellectual property is further reflected in studies addressing digital assets. Wyczik (2024) analyses the legal status of digital assets and observes an increasing convergence between property law and intellectual property concepts. His comparative legal analysis highlights the growing need for cross-border legal harmonisation in response to the digitalisation of economic activity and the expansion of intangible forms of value creation.

In Poland, recent studies have begun to address the limited empirical evidence on IP management practices. Clayton et al. (2023) provide a comprehensive assessment of the Polish intellectual property system in an OECD policy analysis. Their findings indicate that Polish enterprises, particularly small and medium-sized firms, make limited use of formal IP protection instruments. The study attributes this situation partly to insufficient awareness and knowledge of IP among businesses and points to the need for stronger training, advisory services, and regional support mechanisms to integrate IP into enterprise strategies. Complementary insights are offered by Marchenko and Dombrowska (2024), who focus on the legal and organisational aspects of IP protection in Poland. While acknowledging that the Polish legal framework is largely aligned with European Union standards, the authors identify persistent enforcement challenges and emphasise the importance of institutional capacity-building, education, and awareness-raising initiatives to improve the effectiveness of IP protection in practice.

Taken together, the reviewed studies provide a multifaceted perspective on intellectual property protection and management, encompassing legal frameworks, economic incentives, sectoral practices, and organisational capabilities. They underscore the importance of adopting strategic, integrative approaches to IP that support innovation, protect intangible assets, and enhance long-term competitiveness. Building on this body of literature, the present study examines the management of in-

tellectual property protection in enterprises operating in the Lubuskie Voivodeship, offering a regional case study that captures current practices, constraints, and support needs within the Polish economic context.

2. METHODS.

The study employs a quantitative research design based on a structured survey conducted among enterprises operating in the Lubuskie Voivodeship, Poland. The empirical research was carried out in a science- and technology-oriented business district in Nowy Kisielin, selected for its relevance to analysing intellectual property protection management within a regional innovation context.

3. INTELLECTUAL PROPERTY AND INNOVATION IN THE LUBUSKIE VOIVODESHIP

The Lubuskie Voivodeship is characterised by a moderate level of innovative activity among enterprises, which has shown an upward trend in recent years but remains sectorally differentiated. Statistical data indicate that in the period 2020–2022 innovations were introduced by 30.1% of industrial enterprises and 10.6% of service enterprises, representing an increase compared to the period 2019–2021, particularly evident in the industrial sector (Urząd Statystyczny w Zielonej Górze, 2024). At the same time, the share of revenues generated from the sale of new or significantly improved products remains relatively low, especially among service enterprises, which may indicate limited capacity for the sustainable commercialisation of innovation outcomes.

The structure of innovations implemented in the region indicates a predominance of process innovations over product innovations across both the industrial and service sectors. This profile of innovative activity suggests that enterprises focus on optimising existing business processes rather than developing new solutions with high potential for intellectual property protection. As a result, intellectual property is not always perceived as a strategic asset supporting competitive advantage, but rather as an ancillary element of operational activity.

Statistical evidence also reveals substantial differences in innovative activity across enterprise sizes. The highest proportion of innovation-active entities was recorded among large enterprises. In contrast, the small- and medium-sized enterprise sector demonstrates a clearly lower level of engagement in innovation activities and more limited financial expenditures in this area (Statistical Office in Zielona Góra, 2024). Such a structure may constitute a barrier to the systematic implementation of intellectual property protection instruments among SMEs, particularly for patents and industrial designs.

According to the findings of the Diagnosis of the Lubuskie Voivodeship Innovation Development Programme up to 2030, one of the key development challenges of the region is the insufficient linkage between enterprises' innovative activity and systematic intellectual property management and commercialisation processes (Urząd Marszałkowski Wojew-

ódzkiego Lubuskiego, 2021). The document also identifies limited competencies among enterprises in identifying and protecting intangible assets, as well as insufficient use of available institutional support instruments in this area. In this context, intellectual property may play an important role not only as a legal protection mechanism, but also as an element that strengthens the regional innovation ecosystem and supports the development of regional economic specialisations. Consequently, the analysis of the relationship between the level of enterprise innovativeness and intellectual property protection management practices constitutes an important component in assessing the development potential of the Lubuskie Voivodeship.

4. AWARENESS AND APPLICATION OF INTELLECTUAL PROPERTY PROTECTION AMONG ENTERPRISES IN NOWY KISIELIN (LUBUSKIE REGION)

A survey was conducted among 27 enterprises located in Nowy Kisielin, a science and technology-oriented business district in the Lubuskie Voivodeship, Poland. The aim was to assess the level of awareness, application, and perceived importance of intellectual property (IP) protection in business operations. The findings highlight moderate overall awareness and limited practical use of IP protection mechanisms within the regional enterprise sector.

The research sample comprised 27 enterprises across various sectors, with a predominance of small and medium-sized firms. A purposive sampling approach was applied, focusing on enterprises engaged in innovative or technology-oriented activities. Although the sample size does not allow for statistical generalisation, it is appropriate for exploratory analysis of intellectual property management practices at the regional level.

Data were collected using a questionnaire designed for the study. The survey covered awareness and understanding of intellectual property, the use of specific protection instruments, the integration of IP protection into management processes, perceived barriers, and familiarity with institutional support mechanisms. The majority of questions were closed-ended and measured using nominal and ordinal scales.

The data were analysed using descriptive statistical methods. The analysis focused on identifying prevailing intellectual property protection practices and key constraints faced by enterprises in the region. The main limitations of the study are its small sample size and reliance on self-reported data; however, the findings provide an empirical basis for assessing regional IP management practices and for developing targeted support measures for small and medium-sized enterprises.

The following section presents the key findings of the survey concerning enterprises' awareness, use, and perception of intellectual property protection.

Only 33% of the surveyed firms (9 out of 27) reported actively incorporating intellectual property protection into their management processes. The remaining 67% admitted not applying IP protection at all, indicating either a lack of knowledge regarding the benefits of such protection or insufficient aware-

ness of the strategic importance of IP assets.

The majority of respondents (21) self-assessed their knowledge of intellectual property as average. At the same time, only two individuals reported a high level of understanding. Notably, no participant rated their knowledge as "very low," suggesting at least a basic familiarity with IP-related issues among the respondents.

More than half of the respondents (55%) demonstrated familiarity with basic exclusive rights, such as patents or trademarks. However, 45% admitted to lacking such knowledge, reinforcing the need for targeted educational initiatives. Regarding procedural awareness, a significant portion (21 out of 27) indicated good knowledge of the administrative processes required for obtaining protection, reflecting an encouraging level of procedural competence.

An overwhelming majority (92.5%) assessed their understanding of industrial property protection – especially concerning inventions and industrial designs – as "good" or "very good." This points to a strong latent potential for applying industrial IP tools in regional business development.

Only 30% of firms (8 respondents) believed they could effectively protect their industrial property. The remaining 70% cited only limited capacity, most likely due to insufficient resources, lack of legal support, or limited in-house expertise.

22% of participants considered IP protection indispensable, while 78% considered it useful but not essential. Although the overall perception is positive, this result may indicate an underestimation of IP's strategic significance for competitive advantage and innovation.

All respondents (100%) demonstrated awareness of institutions responsible for IP protection, such as the Polish Patent Office and patent attorneys. The most frequently cited sources of information included official institutions and online resources. However, more advanced tools such as Patentscope or official patent bulletins were rarely used, with each mentioned by only one respondent.

41% (11 out of 27) of the surveyed firms had previously used IP protection mechanisms. The most frequently protected elements were inventions and trademarks (11 cases each), followed by utility models (7 cases) and industrial designs (6 cases), indicating a preference for traditional forms of IP protection.

Taken together, the empirical findings reveal both the latent potential and the structural limitations of intellectual property management among SMEs in the Lubuskie region, providing a rationale for developing a targeted pro-innovation support model.

5. PRO-INNOVATIVE SUPPORT MODEL FOR SMES IN THE AREA OF INTELLECTUAL PROPERTY PROTECTION

Based on the analysis of enterprises' needs in the Lubuskie region, a multi-stage support model has been proposed to strengthen the management of intellectual property (IP) in small and medium-sized enterprises (SMEs). The model is de-

signed to identify, protect, manage, and commercialise intellectual assets while integrating IP into broader innovation and business strategies, in response to the gaps and constraints identified in the empirical findings (Figure 1).

Stage I: Intellectual Property Audit

This stage involves identifying and assessing intangible assets created within the enterprise, whether through intentional activities or routine business operations. The audit includes:

- Mapping all IP-related elements embedded in products and services.
- Evaluating internal IP competencies.
- Reviewing contracts with employees, clients, and contractors to identify potential IP transfer risks.
- Verifying the validity and legal status of existing IP rights.
- Identifying new areas for potential protection.
- Monitoring competitors and assessing IP-related risks.

The key outcome of this stage is the creation of an IP map, which forms the basis for a structured IP portfolio.

Stage II: Market Analysis and Commercial Potential Assessment

The identified IP assets are analysed for their relevance to market needs and commercial value. This involves:

- Reviewing market trends and customer expectations.
- Conducting interviews with potential clients.
- Assessing the alignment between existing IP and market demand.

Stage III: Selection of Protection Instruments

This stage focuses on bridging the knowledge gap regarding available IP protection forms. Based on the previous audit and market analysis, enterprises prioritise which assets to protect and how to protect them. Key actions include:

- Selecting appropriate forms of protection (e.g., trademarks, patents, industrial designs, trade secrets).
- Evaluating the strategic importance and business value of specific IP components.
- Avoiding overprotection by focusing on commercially critical assets.

Stage IV: Risk Assessment

Before implementing protection strategies, risk factors should be analysed, including:

- Legal and formal risks (e.g., invalid claims, IP conflicts).
- Technological and environmental risks (e.g., obsolescence, regulatory shifts).

Stage V: Development of an IP Management Strategy

At this stage, a comprehensive IP strategy is developed and tailored to the company's goals. This includes:

- Establishing organisational structures for IP governance.
- Regular valuation of IP assets to support decisions on maintenance, licensing, or sale.
- Introducing internal procedures and staff training on IP handling and trade secret protection.

Stage VI: Implementation of the IP Strategy

The operationalisation of the strategy should be aligned

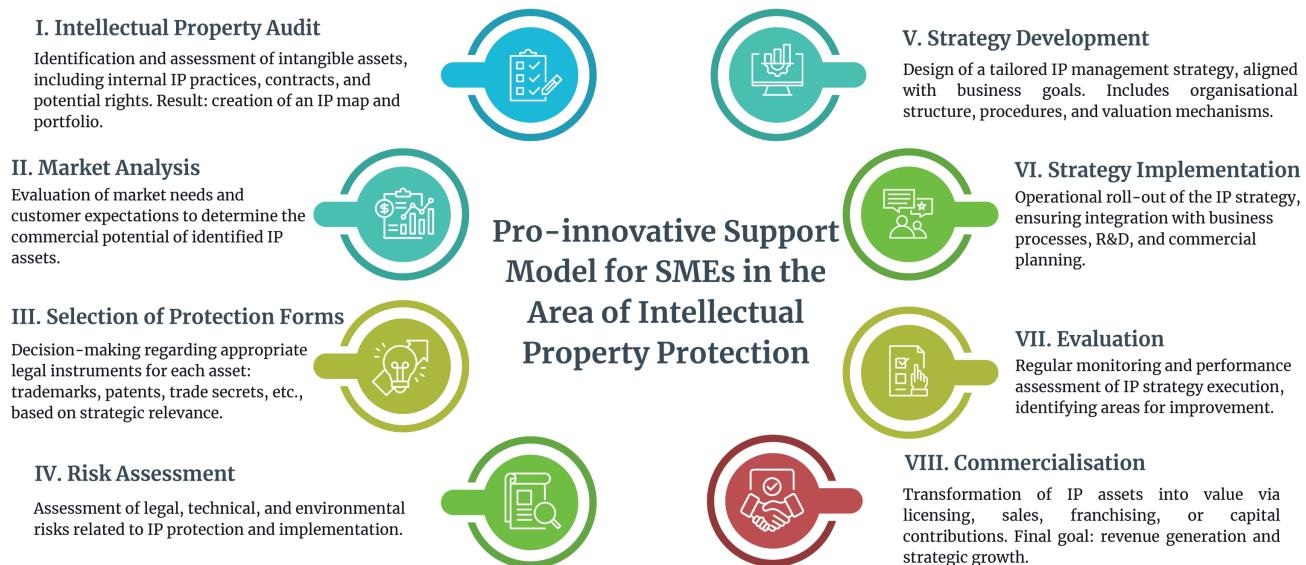


Figure 1. Multi-stage model of intellectual property protection management for SMEs

Source: developed by authors.

with the enterprise's overall business model. Key implementation goals include:

- Strengthening competitive advantage through IP portfolio management.
- Enhancing the efficiency of R&D outcomes.
- Leveraging IP for financial gains through licensing or strategic partnerships.

Stage VII: Evaluation of Strategy Implementation

This stage involves periodic reviews of the IP strategy's effectiveness in meeting business objectives and ensuring consistency with market and legal developments.

Stage VIII: Commercialisation of Intellectual Property

The final stage focuses on turning IP assets into revenue streams through:

- Licensing agreements.
- Sale of IP rights.
- Equity contributions (in-kind) in partnerships or ventures.
- Franchising models based on protected brand elements or know-how.

CONCLUSIONS.

The survey findings among enterprises in the Lubuskie region reveal both the latent potential and critical gaps in the management of intellectual property protection. Although enterprises demonstrate a generally positive attitude towards intellectual property and possess a basic level of procedural knowledge, the practical application of protection mechanisms remains limited and fragmented.

First, the results indicate a clear need for systematic education and training initiatives to strengthen understanding of intellectual property as a strategic organisational asset. The predominance of moderate self-assessed knowledge among respondents may constrain their ability to make informed decisions

regarding innovation protection and long-term competitive positioning.

Second, the limited perceived capacity to protect industrial property highlights structural constraints related to insufficient legal, organisational, and financial resources. In this context, regional institutions, universities, and business support organisations play an important role in facilitating access to specialised expertise, legal advisory services, and funding instruments supporting intellectual property protection.

Third, the underutilisation of advanced information tools, including global patent databases and professional search systems, indicates a gap in digital competencies for intellectual property management. Enhancing the use of such tools may significantly improve enterprises' ability to monitor technological developments, assess competitive environments, and strategically leverage intellectual assets.

Overall, while enterprises in the Lubuskie region exhibit encouraging levels of awareness and interest in intellectual property, targeted, coordinated support measures are required to translate this potential into consistent, effective protection practices. The pro-innovative support model proposed in this study directly addresses the identified needs and constraints, offering a structured framework to strengthen intellectual property management and innovation capacity among small and medium-sized enterprises at the regional level.

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