

CREATIVE ENTERPRISES AND PROTECTION OF INTELLECTUAL PROPERTY IN THE REPUBLIC OF CROATIA

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ABSTRACT

This paper critically examines the types of intellectual property (IP) protection used by creative enterprises in Croatia, focusing on their impact on market positioning and overall economic performance. The aim of the study is to identify the forms of IP prevalent in the industry and to examine the practical challenges faced by these enterprises in managing and protecting their intangible assets. The methodological framework is based on the analysis of secondary data sourced from various databases and includes analytical, synthetic, and comparative approaches. The results indicate that enterprises with intellectual property rights generally have higher employment levels, higher revenues per employee, and higher average wages than enterprises without such rights. Patents are found to be particularly influential and often correlate with the greatest economic benefits. These findings underscore the strategic role that robust intellectual property protection plays in increasing the competitiveness, resilience, and long-term sustainability of creative businesses. In light of these findings, the paper recommends strengthening support systems to improve the effectiveness of IP management and legal protection in this segment of the economy.

Keywords: creative industry, creative enterprises, intellectual property, entrepreneurship, Croatia

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INTRODUCTION

Intellectual property plays an increasingly important role in business development, as its protection can be crucial in helping new ventures transform their innovative potential and creativity into market value and competitiveness. Although the sources of intellectual property appeared as early as the 17th century (copyright and patents), the term itself (“intellectual property”) was mentioned for the first time in October 1845 in the final judgment of the District Court of the American state of Massachusetts. This judgment represents the first written document referring to the concept of intellectual property as a means to protect “the work of the mind, production, and interest”. Today, the concept of intellectual property refers to the product of human intellectual effort or the mind, and legal systems around the world establish specific standards for its content and application [1]. Intellectual property rights in the Republic of Croatia represent the protection of tangible and intangible rights prescribed by legal acts and are used to protect technology, brands, designs, trademarks, and know-how. Holders of ideas are of particular interest because, as authors, inventors, or holders of intellectual property, they have the right to a time-limited monopoly over the economic exploitation of their work, which means that the use of protected works without authorization from the author or rights holder is prohibited for a defined period of time [2]. The protection of intellectual property rights enables entrepreneurs, regardless of the sector in which they operate, to develop and protect new and innovative technological solutions, gain market recognition, and increase the value of their enterprises’ intangible assets. In addition, such protection provides opportunities for market expansion through licensing and franchising [3].

The Republic of Croatia has a long historical tradition of legal regulation of intellectual property, with the first regulations dating back to the 19th century. A significant step forward was made in 1895 with the adoption of the Law on Patents, which regulated patent protection in the territory, followed by the regulation of trademark protection in 1898. From that time until today, maintaining legislative quality and conformity with the highest international standards has remained an ongoing priority [4]. Recognizing that the continuous improvement of products and services based on creativity and innovation is crucial for the survival of both entrepreneurs and large companies, Croatia adopted a series of laws on the protection of intellectual property in 2005, aligning national legislation with European Union regulations and strengthening the role of intellectual property as a development resource. A major advancement in trademark and industrial design protection was achieved through Croatia’s entry into the system of unitary intellectual property rights in the European Union, including the Community Trademark and Community industrial design [5]. In the Republic of Croatia, the main institution responsible for matters related to the protection of intellectual property rights is the State Intellectual Property Office, headquartered in Zagreb.

The key research questions that guide this paper are:

1. What types of intellectual property are most commonly used by creative enterprises in Croatia?
2. How do intellectual property rights influence the market performance of these enterprises?
3. What are the current challenges in intellectual property protection faced by Croatian creative enterprises?

CREATIVE ENTERPRISES AND INTELLECTUAL PROPERTY

Although the term “creative enterprise” is often used to distinguish between cultural, high-tech, or marketing enterprises, there is no universal definition with specific characteristics that clearly distinguish a creative enterprise from a “non-creative” one. Today, enterprises are defined as companies whose primary source lies in the skills, creativity, and talent of individuals and which have the potential to create wealth, jobs, and business development in general [6]. However, regardless of the lack of strictly defined characteristics (with a foothold in human creativity), research and business practice suggest that creative enterprises play an active role in improving economic development, addressing employment challenges, and strengthening education within cultural and creative industries [7], [8].

Creative enterprises produce and distribute creative products and services that are the result of the human mind, creativity, and talent. Such products and services include an intangible dimension characteristic of the creative industry, which must be protected through various forms of intellectual property. Table 1 presents the basic features of creative products. Recent research emphasizes the growing complexity of protecting creative goods in the digital age, where the risk of unauthorized duplication and distribution has increased due to technological advancements [9]. As a result, legal frameworks must continuously evolve to address these challenges more effectively.

Table 1. The basic features of creative products

CREATIVE PRODUCTS	
THE BASIC FEATURE	DESCRIPTION
Creative goods are collective goods in general.	Due to their intangible component, they can be enjoyed by a potentially unlimited number of people; therefore, they require legal protection in the event of production.
Creative goods are exposed to the risk of copying.	Due to the high costs involved in creating new products, there is a risk of copying or counterfeiting. To avoid unauthorized copying, companies usually protect themselves through legal instruments and, in some cases, through additional economic strategies, such as continuous renewal.
Creative goods are generally experiential goods.	The usefulness of a good becomes apparent only after the product is used. Since a creative product is new, subjective factors play a major role in the decision to consume creative goods.
Creative goods lead to the emergence of new economic models such as “versioning”.	Producers can offer different versions of a product at different prices while providing the same content (e.g., audiovisual art, publishing).
Creative goods permit economies of scale.	After the intangible contribution is included, the unit price of the product decreases as the number of units sold increases, leading to economies of scale.

Source: [6]

It is evident that such a comprehensive definition of creative goods implies their consumption and enjoyment by an unlimited number of people. However, creative goods are also “vulnerable” to the risk of copying and face two specific challenges: uncertainty and turbulence. Therefore, the use of intellectual property rights as a tool for enterprise positioning and management is of particular importance. Furthermore, creative goods provide experiential and purposeful benefits to consumers, which lead to new economic models such as “versioning” and enable economies of scale. Creative enterprises are often subject to intellectual property protection due to their creative and innovative nature [10]. Accordingly, intellectual property in the Republic of Croatia can be divided into two main branches: (1) copyright and related rights, which include literary and artistic works and protect authors (creators) against unauthorized copying, and (2) industrial property, which includes patents, industrial designs, and trademarks (Figure 1).

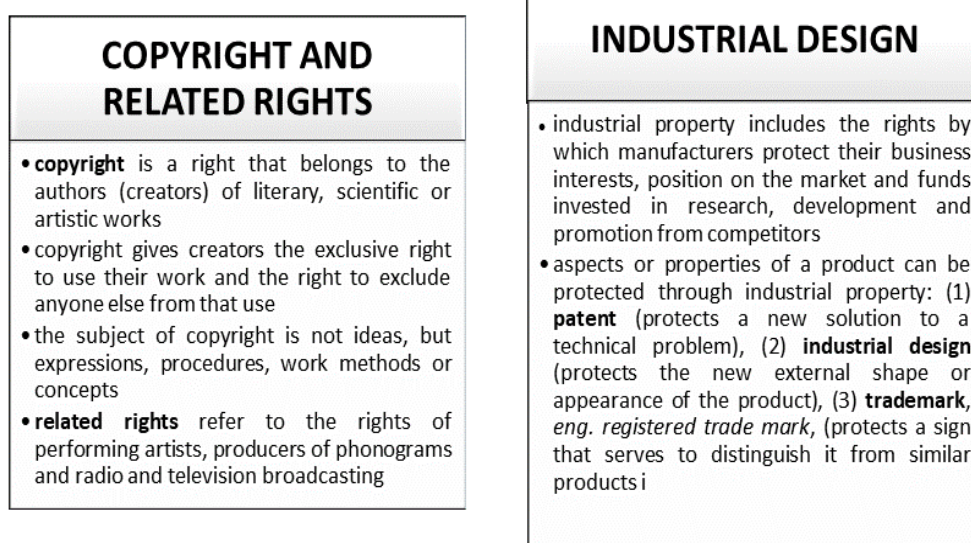


Figure 1. Branches of intellectual property that entrepreneurs/enterprises use to protect their products and services

Source: State Intellectual Property Office, authors' creation

Copyright is the right belonging to the authors (creators) of literary, scientific, or artistic works. It is important to emphasize that copyright does not protect ideas themselves, but rather the author's work as the result of an idea. By definition, the author is a natural person who has created the work, that is, a person whose name, pseudonym, or sign is marked on copies of the work in the usual manner [11]. Copyright is not subject to administrative or registration procedures, nor to mandatory deposit procedures for copies of the work (as is the case with trademarks). Based on copyright, authors have the right to contractually determine the conditions under which reproduction, public performance, recording, broadcasting, translation, or adaptation of their work is permitted, with financial compensation depending on the manner of use [12].

Related rights are closely connected to copyright and arise from the existence of an author's work. They include the rights of performing artists, phonogram producers, and radio and television broadcasters. The State Intellectual Property Office classifies related rights as including: the rights of performing artists over their performances, the rights of phonogram producers over their phonograms, the rights of film producers (producers of videograms) over their videograms, the rights of broadcasting organizations over their broadcasts, the rights of publishers over their editions, and the rights of database producers over their databases [13]. In Croatia, the legal framework governing copyright and related rights is established by the Law on Copyright and Related Rights.

Industrial property encompasses rights that enable producers to protect their business interests, market position, and investments in research, development, and promotion from competitors. Through industrial property, it is possible to protect patents, industrial designs, and trademarks [14]. A patent is a right that protects an invention providing an innovative solution to a technical problem [15]. A patent may relate to a product, a process, or a new application of an existing product or process, and its protection is particularly significant in sectors where development is based on new knowledge (e.g., hardware development, the automotive industry, medical devices, and pharmaceuticals). By registering a patent, patent protection grants the holder a temporary market monopoly over the protected technical invention, typically lasting 10 or 20 years [10]. During this period, patent owners define contractually who may use the patent and under what conditions in the commercialization process.

THE AIM AND METHODOLOGY OF THE WORK

The aim of the paper is to analyze and examine the forms of intellectual property through which the owners of creative enterprises in the Republic of Croatia protect their products and services, as well as their market position. Secondary databases were used in the study, and the methods of analysis, synthesis, and comparison of different forms of intellectual property in the Republic of Croatia were applied based on a literature review and desk research.

RESULTS AND DISCUSSION

Intellectual property creates added value for business entities and the economy as a whole. Research conducted in February 2021 by the EUIPO (European Union Intellectual Property Office) on intellectual property rights and business operations in the European Union shows a number of benefits that investment in intellectual capital and the development of intellectual property portfolios bring to companies. In addition to EUIPO findings, studies by Greffe [6] and Sang [8] support the conclusion that IP protection, especially in creative enterprises, strongly correlates with innovation and economic growth. Greffe highlights that IP-rich companies demonstrate faster employment growth, while Sang emphasizes that creative enterprises with strong IP portfolios are better equipped to withstand market disruptions due to their ability to protect unique and innovative products. These benefits are reflected in a greater number of jobs in companies that own intellectual property rights, higher income per employee, and higher average wages per employee. Table 2 presents the ten leading industries by NACE classification according to ownership of intellectual property rights.

Table 2. Ten leading industries by NACE classification according to ownership of intellectual property rights

NACE classification	Intellectual Property Rights Ownership (%)
J: Information and communications	17.67
C: Manufacturing	14.42
S: Other service activities	14.40
M: Professional, scientific and technical activities	12.97
N: Administrative and auxiliary service activities	10.66
E: Water supply, drainage, waste management, and environmental remediation activities	9.60
G: Wholesale and retail trade, motor vehicle and motorcycle repair	8.95
D: Electricity, gas, steam and air-conditioning supply	5.90
P: Real estate activities	5.75
I: Accommodation and food preparation activities	5.51

Source: [16]

The sectors with the highest density of registered intellectual property rights are information and communication activities (18%), followed by manufacturing (14%) and other service activities (14%). Companies engaged in professional, scientific, and technical activities also show a relatively high concentration of intellectual property rights (13%). This is consistent with the findings of Milović et al., who report that the ICT and manufacturing sectors consistently demonstrate higher adoption of intellectual property rights, enabling more effective innovation and the maintenance of competitive advantages in both national and international markets [3]. It can be concluded that companies owning intellectual property rights are generally larger than those that do not, measured by the number of employees (13.5 versus 5.1 employees on average), and generate approximately 20% higher revenue per employee. In terms of individual intellectual property rights, the average performance premium amounts to 36% for patents, 32% for designs, and 21% for trademarks. This trend is also confirmed by Lavoie and Abdulnour, who note that patent-holding companies experience significant revenue growth due to their ability to protect and commercialize unique technical solutions [7].

Companies that own intellectual property rights pay, on average, 19% higher wages, which is most evident among patent-holding companies (53%), followed by design owners (30%) and trademark owners (17%). Compared to trademarks and designs, patents represent the type of intellectual property that generates the highest returns for companies and employees in terms of revenue per employee and wages. For example, an OECD working paper discusses the economic impact of intellectual property on innovation and firm growth, emphasizing that companies leveraging patents, trademarks, and designs benefit from stronger market positions, higher wages, and increased productivity [16]. Moreover, research indicates that firms operating in countries with well-developed IP protection frameworks tend to outperform those in countries with weaker IP systems, highlighting the critical role of robust IP legislation and enforcement in fostering innovation and competitiveness.

Furthermore, Table 3 presents the average values of selected variables according to ownership of intellectual property rights in the period from 2015 to 2018.

Table 3. Average values of selected variables according to ownership of intellectual property rights, 2015–2018

		Number of employees	Income per employee (EUR 000/year)	Wages per employee (EUR 000/year)
Owners without intellectual property rights		5.1	148.6	29.8
Owners of intellectual property rights	All intellectual property rights	13.5	178.6	35.6
	% difference compared to non-owners	163.8%	20.2%	19.3%
	Patent owners	28.7	202.4	45.5
	% difference compared to non-owners	460.1%	36.3%	52.6%
	Trademark owners	13.5	179.6	35.0
	% difference compared to non-owners	164.3%	20.9%	17.4%
	Design Owners	29.1	196.3	38.7
	% difference compared to non-owners	467.9%	32.2%	29.7%

Source: [16]

There is a positive correlation between ownership of intellectual property rights and company performance in terms of income per employee, which is 55% higher among IP rights holders compared to non-holders. This relationship is particularly pronounced in small and medium-sized enterprises, where revenue per employee is up to 68% higher in SMEs that own intellectual property rights. Although the majority of SMEs in Europe do not hold intellectual property rights, those that do achieve significantly higher employee productivity in terms of revenue.

In large companies, revenue per employee is approximately 18% higher for IP owners than for non-owners. Although this difference is less pronounced than in SMEs, the data indicate that nearly six out of ten large companies in Europe own intellectual property rights.

An analysis of intellectual property representation in the Republic of Croatia and the intensity of initiating industrial property protection procedures shows that statistical data from the State Intellectual Property Office indicate a general decline in the number of applications filed between 2017 and 2021. A growth index of 5% was recorded in 2019 compared to 2018 (Table 4).

Table 4. Number of national and international applications for the protection of intellectual property at DZIV, 2017–2021

Number of applications	2017	2018	2019	2020	2021	INDEX (2021/2017)
National route	1785	1572	1994	1737	1750	98
International route	1740	1764	1518	1330	1258	72
Total	3525	3336	3512	3067	3008	85

Source: [16, authors' calculation]

The total number of initiated industrial property protection procedures decreased by 15% in 2021 compared to 2017, with patent applications showing the largest decline of 51%. Industrial design applications decreased by 19%, while trademark applications declined by 13%. Table 5 presents the number of national and international applications at DZIV by type of protection for the period 2017–2021.

Table 5. Number of national and international applications at DZIV by type of protection, 2017–2021

Type of protection	2017	2018	2019	2020	2021	INDEX (2021/2017)
Patents	212	177	235	147	104	49
Utility models	-	-	-	17	33	-
Trademarks	3088	2974	3074	2638	2689	87
Industrial design	225	185	203	265	182	81
Total	3525	3336	3512	3067	3008	85

Source: [16, author's calculation]

Croatia had 12,158 valid patents at the end of 2021 [16]. According to the analysis of the total number of recognized patents in 2021 and considering the technical fields to which these patents belong, the largest share of registered patents originates from the field of medicine and dental technology, accounting for 23%.

This indicates significant innovation activity in this sector, potentially driven by advances in medical technology and the growing demand for advanced solutions in the healthcare sector. The second-largest share belongs to organic chemistry with 12%, followed by transport with 9%. Construction and metrology occupy the fourth and fifth positions, each accounting for 8%. Organic chemistry, ranking second, represents a key area for innovation, particularly in the development of new materials, pharmaceuticals, and related products. Innovations in transport have a wide range of implications, including improved energy efficiency, reduced emissions, and enhanced safety. Construction and metrology also remain important innovation areas due to the continuous need to improve construction materials, technical processes, and measuring instruments. Other technical fields account for 19% of the total number of recognized patents [16].

Statistical data on the initiation of industrial property protection procedures in Croatia indicate several key trends and challenges:

1. **Decrease in innovation:** A substantial decline in patent applications may indicate a reduction in innovation activity. Innovations, particularly those protected by patents, are crucial for technological development and national competitiveness. A 51% reduction suggests that fewer companies and individuals are developing new products, processes, or technologies for patent protection.
2. **Reduced investment in design:** A decrease in industrial design protection procedures may indicate lower investment in this area. Design is often a key factor in product differentiation, and a 19% reduction may reflect reduced competitive pressure in this field.
3. **Changes in branding strategies:** A decline in trademark protection procedures may indicate changes in enterprises' branding strategies. Trademarks are essential for protecting brand identity, and a 13% reduction may signal shifts in how companies approach market positioning.

All these changes point to the need to improve incentives for innovation, investments in design and branding, as well as encouraging the development of new technologies and ideas.

CONCLUSION

In modern business conditions, the role of protecting and implementing intellectual property is highly significant for the successful development of products and services and for the survival of companies in the market. In the Republic of Croatia, entrepreneurs (enterprises) can use different types of intellectual property rights to protect their products and services: copyright and related rights (innovations in the field of ICT and creative industries), the patent system (technical inventions), industrial design (the external form of a product), and trademarks (market identification of products and services). Research results at the European Union level suggest that companies exploiting intellectual property rights are generally larger in terms of the number of employees, generate higher revenue per employee, and pay higher wages. This is particularly evident in the information and communication technology sector, manufacturing, and other service activities, as well as among companies providing professional services. The findings further indicate that patents represent the most valuable form of intellectual property, generating the highest revenues and employee wages. Moreover, there is a strong correlation between the ownership of intellectual property rights and company economic performance, especially among small and medium-sized enterprises. Although most SMEs in Europe do not currently own intellectual property rights, those

that do generate significantly higher revenue per employee. Higher wages in companies that utilize intellectual property rights may also indicate the higher value these companies create, reflecting a highly skilled workforce and a high level of expertise.

An examination of intellectual property representation in the Republic of Croatia and the intensity of initiating industrial property protection procedures shows that statistical data from the State Intellectual Property Office indicate a predominantly negative trend, namely a decline in the number of applications filed between 2017 and 2021. During the observed period, the total number of initiated industrial property protection procedures decreased by 15% in 2021 compared to 2017, with patent applications showing the largest decline of as much as 51%. These findings suggest that the Republic of Croatia faces challenges in maintaining intellectual property activity, particularly in the area of patent protection. Nevertheless, the Republic of Croatia has a developed and modern legislative framework for intellectual property protection and should continue to encourage and support the development and protection of intellectual property, especially in sectors with the highest patent activity.

Furthermore, coordinated efforts by all relevant stakeholders and the effective use of intellectual property rights to support development can ensure enterprises' competitive advantage, the creation of high-quality jobs, and sustainable economic growth.

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