

ПРОБЛЕМА СОХРАНЕНИЯ АВТОРСКИХ ПРАВ В МАРКЕТИНГОВЫХ ИССЛЕДОВАНИЯХ: НОВЫЕ ВЫЗОВЫ В ЭПОХУ ИСКУССТВЕННЫХ НЕЙРОННЫХ СЕТЕЙ

SUBSISTENCE OF COPYRIGHT IN MARKET RESEARCH: NEW CHALLENGES IN THE AGE OF ARTIFICIAL NEURAL NETWORKS

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Аннотация. В статье рассмотрено влияние нейросетей на интеллектуальную собственность в маркетинговых исследованиях. Автор утверждает, что растущее использование искусственного интеллекта и машинного обучения в маркетинговых исследованиях создает новые проблемы для защиты прав интеллектуальной собственности. Статья дает представление о правовых тенденциях, связанных с использованием технологий в маркетинговых исследованиях, которые были проанализированы с помощью количественного контент-анализа и метода кейсов (case studies). Статья представляет собой ценный ресурс для исследователей, практиков и политиков, заинтересованных в проблемах интеллектуальной собственности и искусственного интеллекта.

Ключевые слова: интеллектуальная собственность, маркетинговые исследования, нейросети, машинное обучение, правовые вопросы

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• **Abstract.** The article "Subsistence of Copyright in Market Research: New Challenges in the Age of Artificial Neural Networks" examines the impact of neural networks on intellectual property in marketing research. The author argues that the growing use of artificial intelligence and machine learning in marketing research poses new challenges to the protection of intellectual property rights. The article provides insights into legal trends related to the use of technologies in marketing research, which have been analysed through quantitative content analysis and case studies. The article is a valuable resource for researchers, practitioners and policymakers interested in the intersection of intellectual property and artificial intelligence.

• **Keywords:** intellectual property, market research, artificial neural networks, machine learning, legal issues, IP challenges

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INTRODUCTION

- Intellectual property is a complex and often controversial field, with various objects of protection generating heated debates and legal battles [1]. This is especially true in the digital age, where intellectual property can be shared and copied with unprecedented speed and ease [2]. As a result, ensuring the protection of intellectual property has become increasingly challenging in the face of new digital technologies. This necessitates the development of novel legal approaches and technological solutions to ensure that creators and innovators receive fair compensation for their work. The debates surrounding these issues will play a crucial role in shaping the future of creativity and innovation in today’s digital age.

- Among various forms of intellectual property, copyright is particularly susceptible to infringement as trademarks can be easily detected using advanced AI tools employed by companies like Corsearch [3]. These techniques are capable of identifying unauthorized use or misuse across different mediums such as videos and texts. On the other hand, patents although more difficult to detect are relatively easier to prove when it comes to unlawful usage, allowing for effective prohibition measures. However, copyright infringement remains both hard to identify and protect effectively — an observation supported by numerous recent cases arising from such violations.

- For example, currently, many artificial networks are prosecuted by authors and artists who believe that their works were used to teach the network (e.g., the court cases suing Stable Diffusion [4, 5], Midjourney [6] developers). Nevertheless, even here with the possibility to check the database and to see if these works are in this database, it is still challenging, and many researchers are critical of chances to win the case [e.g., 7] citing fair use doctrine, the extent of responsibility implemented on platforms and the lack of any punishment if the platform after learning of any copyright infringement instance immediately removes it [8]. Then what to do about even less massive use? How to prove here that the person has done something creative and not just stolen? The border between creative and uncreative activities is quite vague and certainly requires deep analysis, as is proved by Anna Shtefan in her research [9].

It is crucial to emphasize that certain activities or forms of intellectual property, such as photography, voice acting, translation, and market research, which are sometimes considered less artistic and less significant for development purposes throughout history, often go unnoticed or do not receive the recognition they deserve.

Translation, for instance, is an anomaly in terms of copyright, which seeks to protect the expressions of original works rather than the ideas contained in them. When it comes to translations, they are considered derivative works that express the ideas of the original text in a new form. Throughout history, copyright laws have faced challenges in addressing the moral and economic rights of both translators and authors of original texts. In more recent times, advancements in technology such as translation memories and machine translation have introduced further complexities into this landscape [10]. These technological tools allow for the reuse of translations as data, with machine translation specifically extending this practice into new domains like literary translation where it has had less impact thus far. As a result, ownership of translated texts becomes blurred in situations where translators rely on suggestions from previous works during the technology-assisted translation process.

Copyright disputes in the field of photography have long been a contentious issue [11]. The complexity arises from the fact that images often include copyrighted objects, leading to conflicts over which regimes apply. This challenge has persisted for over 150 years, as noted by Amanda Fischer Adian [12]. Moreover, technological advancements and globalisation have brought forth new issues, such as cases involving monkeys taking selfies [13] or infringements on museum rights [14].

Market research is not an exception in this dismissing process. Market research has always been a topic of debate when it comes to intellectual property, with some arguing that the data collected through market research doesn't contain a subsistence of copyright [15], while others argue that the insights and analysis derived from this data are valuable intellectual property that should be protected [16]. This debate has become even more complex with the rise of artificial neural networks and machine learning algorithms in market research, which have the ability to collect and analyze vast amounts of data, providing valuable insights and predictions for businesses without or with just a little bit of human help.

Returning to the copyright protection of the market research, it appears to be challenging to prove that the analysis of the market is creative enough to gain copyright protection. The ownership and protection of this data and the resulting insights have become a legal and ethical issue. Some argue that the insights derived from machine learning algorithms are not protectable under current in-

tellectual property laws, as they are based on statistical analysis rather than original creative works. They add that these insights are protectable under trade secret law or by trademarks, as they provide a competitive advantage to businesses so they should not be protected by copyright as well. Such practices were quite common previously (an example could be the case *Procter & Gamble Co. v. Amway Corp.* [17] where the stolen market report was considered under trademark infringement only). However, there is disagreement on this matter as it imposes limitations on new players who may not possess trademarks and face difficulties in proving the disclosure of trade secrets. The market research services industry has shown significant growth globally, with a compound annual growth rate of 3.4%, increasing from \$81.13 billion in 2022 to \$83.93 billion in 2023 [18]. This data highlights the significance of such activities for entrepreneurial and innovation pursuits since businesses are often the primary source of innovation.

Thus, there is a lack of agreement and comprehension regarding the feasibility and future of copyright protection of market research. As society becomes increasingly digitized and methodologies evolve, there is currently no dedicated article addressing the existence of copyright in market research reports. However, it is worth noting that the proportion of market research companies within creative industries is expanding. Consequently, knowledge on this subject remains fragmented and controversial, necessitating further analysis.

To fill this research void, I plan to analyze the intellectual property status of various global economies and examine case studies that reflect current accepted norms and trends. To establish connections between different countries and their positions, quantitative methods will be employed. Since the data consists of qualitative sources such as policies and documents, a content analysis using statistical software like SPSS will explore relationships between different indicators. Subsequently, case studies focusing on selected countries will be conducted.

To address this research gap, I plan to analyze the global economies based on their intellectual property standing and examine case studies that reflect current accepted norms and trends. To establish connections between different countries and their positions, quantitative methods will be employed. Since the data consists of qualitative sources such as policies and documents, a content analysis using statistical software like SPSS will explore relationships between different indicators. Subsequently, case studies focusing on selected countries will be conducted.

The findings of this study would be valuable for policymakers, practitioners, and researchers as they seek to develop a holistic strategy for safeguarding intellectual property in the era of artificial intelligence. Such an ap-

proach can enable the realization of technology's advantages while reducing its associated drawbacks.

BACKGROUND

Initially, copyright laws were primarily focused on protecting works created by human authors. The concept of copyright emerged as a means to grant exclusive rights to authors and incentivize the creation of original works after the invention of printing press during the 15th century [19]. The laws and regulations coming afterwards aimed to protect tangible expressions of creativity, such as literary, artistic, and musical works, and helped with the development of press and creativity [20].

As technology advanced, automated processes began to play a significant role in creating and compiling works. This raised questions regarding whether these works were eligible for copyright protection. With the growth of computer-generated works and the increasing complexity of automated systems, legal frameworks began to adapt to address these challenges. The concept of authorship expanded to include works that involved a combination of human and automated efforts. For instance, the EU Database Directive [21] defines originality and creativity as key factors in determining if a database compilation is eligible for copyright protection. According to this directive, intellectual effort and creative choices made in selecting and arranging data within a database should be safeguarded by copyright law.

According to the mentioned directive, in order for a database compilation to be eligible for copyright protection, it must be the result of the author's own intellectual creation. This means that it needs to demonstrate originality and reflect creative choices made by the author regarding content selection and arrangement, rather than being a mechanical or automatic process. The directive also acknowledges that databases can be created and maintained using automated processes. As long as such compilations meet the criteria of originality and show evidence of creative effort in their selection and arrangement, they can still qualify for copyright protection, even if automation was involved in their creation.

It is worth noting that the EU Database Directive does not protect the data or information itself contained within a database, but rather the originality and creativity in how the data is organized and presented. The protection granted by the directive is limited to the structure and arrangement of the database compilation, rather than the individual facts or data entries.

The development of copyright protection for works compiled by automated and human efforts also involved addressing issues of ownership and attribution which was only slightly addressed by many legislations, includ-

ing the European Union (EU). There are already cases where the question of authorship or ownership arises when works are created through automated processes, particularly in relation to art produced by artificial neural networks [22]. However, these cases have not yet extended to compilation or market research activities.

Based on how copyright laws have evolved to address the challenges of protecting digital and online works when the digital era has introduced new complexities such as easy replication, distribution, and modification of works, and copyright laws have been updated with measures like digital rights management technologies and international treaties aimed at harmonizing copyright protection in the digital domain, it could be expected that new regulation concerning copyright of automatic compilation would appear. Still, some remain sceptical about whether these updates are sufficient or if further regulatory changes are needed [23].

In conclusion, the history and development of copyright protection in works compiled by automated and human effort have been shaped by the evolution of technology and the need to adapt legal frameworks to encompass new forms of creative expression. As technology continues to advance, the ongoing evolution of copyright laws will remain crucial to ensure the protection and recognition of intellectual property rights in both automated and human-created works.

METHODOLOGY

As previously mentioned, there is a need for comprehensive information on the role of copyright protection in market research and its future challenges. To address this gap, this proposed study aims to examine court opinions through case studies as a means of providing objective and systematic insights into intellectual property protection and trends worldwide. This research adopts a combination of qualitative, longitudinal case study methodology with quantitative elements to identify relevant and representative cases for analysis.

A technique that allows for the systematic identification and interpretation of patterns in qualitative data, such as beliefs, opinions, and attitudes, is known as content analysis [24]. Content analysis involves a thorough evaluation of textual or visual data to identify recurring themes or communication patterns across various sources [25].

Thus, quantitative content analysis was conducted to identify trends and correlations between countries in terms of copyright and IP protection in market research. The selected countries were participants of either the Organisation for Economic Co-operation and Development (OECD) or the BRICS, including new participants, to ensure that all major economies were taken into con-

sideration. The original acronym “BRIC”, or “the BRICs”, was coined in 2001 by Goldman Sachs economist Jim O’Neill to describe fast-growing economies that he predicted would collectively dominate the global economy by 2050. OECD would be representative of the currently developed countries, while BRICs fill the gap of the future and developing economies.

Several key indicators were chosen and assessed, including the Global Innovation Index (GII) country ranking, the ranking of intellectual property rights protection, the expenditure on research and development (R&D) as a percentage of GDP, and the number of active IP main documentation in each country (investigated and divid-

ed into 3 categories: zero IP documentation, 1 main IP document, 2 or more documents).

RESULTS

The results of the content analysis revealed a strong correlation between a country’s GII ranking, intellectual property rights protection ranking, and the expenditure on R&D as a percentage of GDP. This finding reaffirms the thesis that intellectual property rights play a crucial role in promoting innovation. This trend has remained consistent over time and highlights the significance of intellectual property protection in driving research and development activities.

Table 1. The analysis was held via SPSS

Correlations					
		GII	IPR	GERD	Number_of_documents
GII	Pearson Correlation	1	.842 **	-.691 **	-.251
	Sig. (2-tailed)		.000	.000	.089
	N	47	47	47	47
IPR	Pearson Correlation	.842 **	1	-.542 **	-.275
	Sig. (2-tailed)	.000		.000	.062
	N	47	47	47	47
GERD	Pearson Correlation	-.691 *	-.542 **	1	.081
	Sig. (2-tailed)	.000	.000		.588
	N	47	47	47	47
Number_of_documents	Pearson Correlation	-.251	-.275	.081	1
	Sig. (2-tailed)	.089	.062	.588	
	N	47	47	47	47

** . Carrelation is significant at the 0,01 level (2-tailed).

Interestingly, the analysis also showed that the number of IP documents does not have as significant an impact on a country’s ranking as the actual implementation of intellectual property protection. This observation is supported by both the Pearson Correlation analysis and the fact that European Union (EU) countries have almost identical IP documents but vary significantly in their rankings. This suggests that while the existence of IP legislation is important, the effectiveness of its implementation is equally crucial. It underscores the need for countries to focus on enforcing and safeguarding intellectual property rights to foster innovation and economic growth.

Moreover, it is worth noting that many countries primarily rely on individual normative and judicial regulations, leading to ambiguities within the legislation. This complexity further emphasizes the importance of a robust and comprehensive intellectual property framework that addresses the intricacies and challenges associated with protecting creative and innovative works.

Based on their rankings, all countries were categorized into three groups: green, neutral, and red as it is shown in the Table 2. Surprisingly, there was a relatively even distribution, with 40% of countries falling into the red group, 18% in the neutral group, and 42% in the green group. This balanced distribution suggests that intellectual property protection and innovation are challenges faced by countries across the spectrum.

To explore potential differences in how courts from different groups would judge copyright protection in market research, one representative country was chosen from each group. The United States was selected as the representative from the green group, as it consistently ranks high in terms of intellectual property protection and innovation. Known for its strong legal framework and enforcement mechanisms, the U.S. serves as a benchmark for effective intellectual property protection.

Table 2. Content analysis. The data was taken from OECD [26, 27], WIPO [28], UNESCO [29], Trading Economics [30], Egypt State Information Service [31], India Department of Science and Technology [32] databases.

Country	Gross domestic spending on R&D (total, % of GDP, latest available year)	GII (2023)	IPR rank (2023)	Copyright documentation (0 - if no documentation found, 1 – if there is only one source of copyright protection, 2 – if there are 2 or more documents)	Group
Argentina	0,52%	73	95	2	Red
Australia	1,80%	24	10	1	Green
Austria	3,26%	18	11	1	Green
Belgium	3,43%	23	18	2	Green
Brazil	1,21%	49	83	1	Red
Canada	1,55%	15	15	1	Green
Chile	0,34%	52	38	1	Red
China	2,43%	12	50	2	Neutral
Czech Republic	2,00%	31	23	2	Neutral
Denmark	2,76%	9	4	2	Green
Egypt	0,96%	86	88	1	Red
Estonia	1,75%	16	24	2	Green
Ethiopia	0,27%	125	119	1	Red
Finland	2,99%	6	1	1	Green
France	2,22%	11	20	2	Green
Germany	3,13%	8	9	2	Green
Greece	1,46%	42	58	2	Neutral
Hungary	1,64%	35	48	2	Neutral
Iceland	2,81%	20	19	2	Green
India	0,64%	40	62	1	Red
Iran (Islamic Republic of)	0,88%	62	113	1	Red
Ireland	1,11%	22	17	2	Neutral
Israel	5,56%	14	25	1	Green
Italy	1,45%	26	35	2	Neutral
Japan	3,30%	13	13	1	Green
Korea, Rep	4,93%	10	22	1	Green
Latvia	0,74%	37	30	2	Red
Lithuania	1,11%	34	27	2	Red
Luxembourg	1,04%	21	8	1	Neutral
Mexico	0,30%	58	76	1	Red
Netherlands	2,27%	7	3	2	Green
New Zealand	1,47%	27	5	1	Neutral
Norway	1,94%	19	6	2	Green
Poland	1,43%	41	46	2	Red
Portugal	1,73%	30	26	2	Neutral
Russian Federation	1,10%	51	103	1	Red
Saudi Arabia	0,46%	48	43	1	Red

Country	Gross domestic spending on R&D (total, % of GDP, latest available year)	GII (2023)	IPR rank (2023)	Copyright documentation (0 - if no documentation found, 1 – if there is only one source of copyright protection, 2 – if there are 2 or more documents)	Group
Slovakia	0,92%	45	39	2	Red
Slovenia	2,13%	33	36	2	Neutral
South Africa	0,60%	59	55	1	Red
Spain	1,43%	29	24	2	Neutral
Sweden	3,40%	2	7	2	Green
Switzerland	3,36%	1	12	2	Green
Turkiye	1,40%	39	93	1	Red
United Arab Emirates	0,29%	32	32	1	Red
United Kingdom	2,92%	4	15	1	Green
United States	3,46%	3	14	1	Green

The EU, specifically the EU Supreme Court, was chosen as the representative from the neutral group. The EU has a comprehensive intellectual property framework and serves as a central authority for resolving disputes related to intellectual property rights. Furthermore, most famous court cases related to intellectual property end up at the EU Supreme Court, making it a significant player in shaping copyright protection in market research within the EU and beyond.

Finally, India was selected as the representative from the red group, as it faces significant challenges in intellectual property protection. India's complex legal landscape and issues surrounding piracy and counterfeiting make it an interesting case study for understanding the hurdles associated with copyright protection in emerging economies.

These countries were chosen based on their scale, significance in the global economy, and the availability of court cases, as well as the languages used. It should be noted that finding court cases in English can be challenging in some countries, which may limit the accessibility and comprehensiveness of the analysis.

By examining how courts in different groups approach copyright protection in market research, it becomes possible to gain insights into the varying perspectives and approaches to intellectual property rights across countries. Understanding these differences can help policymakers and stakeholders in developing effective strategies to strengthen intellectual property protection, foster innovation, and promote economic growth.

In conclusion, the quantitative content analysis conducted in this study highlights the strong correlation between a country's GII ranking, intellectual property rights protection ranking, and expenditure on R&D.

CASE STUDIES

Case Selection

I selected 5 cases from three different (based on their IP protection standing) countries: the United States of America (USA), the European Union (EU) and India. Cases were chosen based on the search among high courts cases, its citations to make sure it wasn't repelled afterwards. One case should be later than 2010 to show recent trends and notions, while other case should address the question of copyright possibility of market research report. In case of India the same case addresses both recent trends and copyrightability of market research report.

USA

Assessment Technologies of WI, LLC v. Wiredata, Inc. (2003-2004) [33] is one of the major cases concerning copyright protection of market research in the USA. In this case, a company sued another company for copyright infringement of its market (real estate) research reports. Assessment Technologies of WI used the data that were gathered by the municipalities, in particular, real estate brokers, data regarding specific properties, including the address, owner's name, the age of the property, its assessed valuation, the number and type of rooms, and other important factors. This compilation of data was implemented in an interactive way to give users the opportunity to easily understand the state of the market and prices. The court in this case stated that the compilation does not lack sufficient originality to be copyrightable. The court emphasized that copyright law, unlike patent law, does not require substantial originality. It only requires enough originality to distinguish a work from sim-

ilar works in the public domain. The court found that the compilation satisfied this requirement as no other real estate assessment program arranged the data in the same way. This case set a precedent for copyright protection of market research in the USA.

The question about the possibility of copyright protection is not even risen already as all market research companies, for example, McKinsey or Statista, already rely on copyright protection and emphasize it on their website. However, currently, as it can be seen through analysis of the last decade cases, copyright protection cases concerning market research in the USA are focused on methodologies and technologies used, such as the famous case of Oracle vs. Google [34]. After a decade of litigation, the US Supreme Court decided in 2021 that while technologies could be protected, application programming interfaces (API) in this particular case would not be under copyright. Initially, the court decided that the overall structure of Oracle's API packages is creative, original, and resembles a taxonomy, and therefore should be under copyright. However, the US Supreme Court refused the notion of copyrightability and stated that it is only 0.4% of the whole code, suggesting that the decision could be different if the percentage was higher. The court also mentioned that this case cannot be considered a precedent, as it only covers API and not other technologies. This case was not just about the law, but also about the future direction and consequences of the decision, as the tech industry could suffer a significant blow if Oracle had won.

In conclusion, Assessment Technologies of WI, LLC v. Wiredata, Inc. and Oracle vs. Google are two significant cases that have shaped the copyright protection landscape of market research in the USA. While the former established the possibility and viability of copyright protection for market research, the latter focused on the methodologies and technologies used in market research providing that with the development of technologies market research is less about the human input in the text but more about human creativity of used technologies and methodologies. The decisions made in these cases have far-reaching implications for the tech industry and underline the importance of a robust and comprehensive intellectual property framework that addresses the challenges associated with protecting creative and innovative works.

European Union

Market research cases are not frequently considered by EU courts; however, there are significant cases that support the concept that market research is protected by copyright. One such case is Infopaq International A/S v Danske Dagblades Forening [35]. The European Court

of Justice ruled that even small excerpts of news articles could be protected by copyright if they were original and reflected the author's intellectual creation. This decision highlights the importance of originality and creativity in determining copyright protection.

Another notable case is Football Dataco Ltd and Others v. Yahoo! UK Ltd and Others [36]. Although this case was decided by the High Court of England and Wales, it referenced EU directives since the UK was part of the EU at the time. The court ruled that football fixture lists can be protected by copyright if they are original and reflect the author's intellectual creation. The effort expended in creating the data was deemed irrelevant for copyright eligibility, as the court considered it to be an activity outside the scope of the EU Directive.

The court also emphasized the unification of practices under the EU Directive. In countries with common law traditions, such as the United Kingdom, the decisive criterion has traditionally been the application of "labour, skills, or effort" [36] while in countries with continental traditions, a work must generally possess a creative element or express the creator's personality to be protected by copyright. Thus, in the UK databases were generally protected by copyright based on the effort or skill invested in creating them before EU Directive. According to this decision, after the directive was implemented, the court can't take the argument about efforts put in the process or lack of thereof in consideration. The court's acknowledgment of these different previous approaches and current unification underscores the importance of analyzing the EU as a whole which is also supported by new researches, for example, done by Simone Schroff in 2021 [37].

These cases demonstrate that market research can be considered a creative and intellectual endeavor deserving of copyright protection under the EU legal framework. While market research cases may not be as frequent as other types of copyright disputes and methodological issues were not raised in the higher courts of the EU as it was in the USA, these decisions provide guidance and precedent for the recognition of copyright in the field of market research. The most important trend that could be seen from the UK case is that the human input and workload are not sufficient already to prove the copyrightability of the object, with the development of technologies the creativity requires much more time for consideration. As the importance of data and information continues to grow, it is highly probable for market research report copyright infringement cases to rise under EU law, however, EU copyright framework is believed to be generally suitable and sufficiently flexible to deal with the current challenges posed by AI-assisted creation [38]. I also believe that current legislature is enough to direct the copyright issues in litigation and it could be seen that there

are cases already that don't consider the human efforts as the most significant factor. Nevertheless, I think that EU courts would require much more evidences to prove copyright, unlike the USA, where substantial originality is not required as much.

India

In the case between Markets and Markets Research Pvt. Ltd. and Meticulous Market Research Pvt. Ltd. (2023) [39] in India, the plaintiff, Markets and Markets Research Pvt. Ltd., accused the defendant of copying the format and content of their market research reports. The plaintiff, a company providing quantified research and market intelligence, discovered this when the Vice President of the defendant, who was an ex-employee of the plaintiff, offered to sell a report that was identical to the plaintiff's published report.

Upon comparing the reports of both companies, the Court noted that the defendant's reports were very similar to the plaintiff's reports, including having identical titles, similar table of contents, and substantial portions of content. Although the full reports were not accessible to the plaintiff, it was evident that the defendants had at least copied the titles of 91 reports from the plaintiff. The Court recognized that the plaintiff's reports were copyrighted and contained confidential information.

The Court found a prima facie case of copyright infringement and ruled in favor of the plaintiff. An ex parte ad interim injunction was passed, restraining the defendant from advertising and selling the infringing market research reports.

The Court had the option to consider whether the plaintiff's confidential information could be protected under the Indian Contracts Act, 1872 or if their client information stored in databases could be considered copyrightable material under the Copyright Act, 1957. Previous cases, such as *Richard Brady v. Chemical Process Equipment Pvt. Ltd. and Indian Explosives Pvt. Ltd. v. Ideal Detonators Pvt. Ltd. and Ors.*, had implicitly acknowledged that confidential information could be protected within the purview of copyright law. That is certainly quite unique approach as the aspect of confidentiality seems to be one of the supporting criteria while in many countries it is not the case. According to researchers [40], this approach is a response to the absence of clear regulations on confidentiality, which courts aim to address. Additionally, it should be noted that the proof of confidentiality being in place and actual is quite hard both in EU and in the USA, as, for example, in case of *Assessment Technologies of WI vs. Wiredata*, the court checked the possibility of temporary free access to the database, and with this argument the confidentiality infringement was dropped by the court in the US case.

In conclusion, it could be seen that while the approaches of courts are slightly different in some cases overall the trends on admitting the copyright protection of market research prevail in the judicial systems as well as leaving the human efforts factor behind and considering more creativity of the object. It could also be seen as while in green group the cases investigated are already inclined towards methodological or technological parts of research, the neutral group is still in transition to this step, while red group is only beginning to consider the copyright cases of market research companies.

DISCUSSION: CHALLENGES AND FUTURE EXPECTATION

Based on the analysis and case study, it is evident that demonstrating creativity or substantial originality becomes increasingly difficult over time due to rapid technological advancements. Merely showing evidence of work hours dedicated to creating a market research may not be sufficient, especially if there is a lack thereof.

One of the primary challenges in the era of artificial neural networks is the unauthorized use of copyrighted material for training these networks and creating databases. For instance, a market research company may use ANNs to gather information and assess demand for a specific product. However, if another market research company uses the same ANN, it could receive similar results with less detailed keywords as the ANN has already learned from previous data. ANNs heavily rely on large datasets to learn patterns and make accurate predictions. In this case, copyright infringement cases do not consider the effort put into collecting data by the first market research company. It can also be difficult to determine how much creativity should be attributed to input when assessing whether sufficient information would have been obtained from an ANN without input from other sources. These issues raise both ethical and legal concerns.

Another issue in this scenario is the challenge of differentiating between fair use and copyright infringement when it involves ANNs. Fair use permits the limited utilisation of copyrighted material without permission for purposes like criticism, commentary, or research. However, establishing the boundaries of fair use within the context of ANNs can be complicated. Since ANNs process significant amounts of data, ensuring that the usage of copyrighted material remains within acceptable limits becomes difficult.

In addition, the topic of acknowledgment and ownership in the era of ANNs gives rise to concerns regarding acknowledging original creators. ANNs are programmed to learn from various sources, including copyrighted materials. As a consequence, distinguishing between origi-

nal content and content generated by ANNs can become blurred, particularly in market research reports where elements like words, style, and design determine the level of creativity involved in compiling them. This presents a notable challenge when it comes to giving credit to individual creators and safeguarding their rights over intellectual property.

Looking towards the future, there are several expectations and potential solutions to address these challenges.

It could be expected that in the next decade, there will be an increase in cases related to the usage of customised artificial neural network models in various industries, including market research. These models, powered by artificial intelligence, have the potential to generate highly creative and interactive content, which would qualify for copyright protection if the inputs were creative enough, the amount of work hours wouldn't matter though. This can be beneficial for individuals and businesses, as it would be easier to prove the originality and creativity of their methodologies and the resulting compilations.

However, it is important to note that these cases may also present challenges. Many market research companies still rely on traditional methods of data collection and categorization. As the use of artificial neural networks becomes more prevalent, disputes may arise regarding the originality and copyrightability of the generated content, especially when it comes to compilations of data and the specific arrangement or presentation of information. There would be cases where the parties would try to prove that compilation is done not by ANNs but by their specific way which they would try to prove to be efficient and creative enough.

These cases will likely require a careful analysis of the level of creativity involved in the methodologies and the compilation of data generated by customised artificial neural network models. It will be crucial for legal frameworks to adapt to these emerging technologies and provide clarity on the copyright protection of AI-generated content.

Overall, the increasing use of customised artificial neural network models in market research and other industries will likely lead to a rise in copyright-related cases. It will be important for businesses and individuals to stay informed about the evolving legal landscape and ensure they have appropriate measures in place to protect their intellectual property rights.

LIMITATIONS OF THE STUDY

One limitation of the study is that it focused exclusively on more or less developed countries, which may introduce a bias towards wealthier economies. Additionally, the selection of case studies, while carefully chosen and

scrutinized, could potentially be outdated and not reflect the most recent developments in the field. Furthermore, the literature and cases examined were limited to those written in English; other languages were excluded from consideration.

FUTURE DIRECTIONS

In order to further understand the relationship between IP protection standing and copyright issues in different countries' courts, future research should explore the impact of these factors on both the economy and legislation. Additionally, investigating how this connection has evolved over time can provide valuable insights into potential future developments in this area.

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