Vol.1, No.1, 18-26,2023

Trends in Intellectual Property Research

ChatGPT and Patent Regime: Key Legal Concerns

Muhammad Zia-Ul-Haq[1]*, Ghulam Mujtaba[2]

[1] *Office of Research Innovation and Commercialization (ORIC), University of Engineering and Technology (UET), Lahore, Pakistan.*

[2] *Intellectual Property Organization of Pakistan, NTC Center, G-5/2 G-5, Islamabad, Pakistan. E-mail: mujtabakamal@live.com*

* *Corresponding Author Email: zia.haq@uet.edu.pk*

Abstract: Current study has been designed to investigate the effect of ChatGPT in patent domain and suggest possible solutions to circumvent these concerns. Intellectual property rights (IPRs) especially patents are of paramount importance in the innovation ecosystem. Since ChatGPT is being increasingly used in patent perspectives suggesting various solutions, naturally there should be mechanisms to cope with its implications. At a broader level, ChatGPT can accelerate preparation of patent application, prior art search, and patent examination slashing costs and time while minimizing the system mistakes. ChatGPT can assist patent attorneys work more professionally and make more precise diagnoses, thus improving their productivity. It, however, is also raising concerns in stakeholders regarding various legal issues. New legal tools are needed to understand the development, regulation, and implementation of ChatGPT in patent regime to harness the tremendous possibilities of transformation for the better. Policymakers and legal experts need to collaborate to create guidelines that strike a balance between encouraging innovation and protecting the rights of creators.

Keywords: ChatGPT; Patents; Patent Attorney; Person Skilled the Art; Patent Examination

1. Introduction

ChatGPT (generative pre-trained transformer) is essentially an artificial intelligence generated content (AIGC) technology which can generate text, image, video, code, and other forms of contents through natural language commands. The “generative” means a type of AI model that produce new output based on a given input, i.e., a question or request from a user. The “pre-trained” means that ChatGPT is an already-trained, ready-to-use model. “transformer” meaning that ChatGPT is a type of transformer model. The “chat” in ChatGPT indicates this question-and-answer design, whereby ChatGPT acts like a ChatBot. It is a class of “language” model, natural language processing (NLP) created to reply with a natural language reply when prompted with a text-based question[1]. ChatGPT can process enormous patent documents of any field simultaneously without these documents being limited to a certain field of knowledge, or even to one art. The key advantage of ChatGPT is that it can learn, understand and analyse human natural language, and on this basis, it can have a powerful anthropomorphic nature. ChatGPT is now finding its place in mainstream largely since the hardware and processing technology are in line with its vision. ChatGPT is expected to play a major role in innovation ecosystem in near future. It can craft patent applications at a rate equivalent to or better than humans. It will consider apparently dissimilar or external aspects that patent attorney may not instantly see as pertinent. The improvements in big data, neural networks, parallel processing, and cloud technology have enhanced patent filing swiftly since last 3 years[2]. ChatGPT can act as catalyst for invention ecosystem if used appropriately.

[1] https://www.mondaq.com/ (Accessed 23 December 2023).

[2] ip-pragmatics.com (Accessed 23 December 2023).

It is well established that laws always follow technology, so is the case here. The existing legal frameworks were not designed with ChatGPT in mind and adapting them to address the impact of ChatGPT on patent regime can be a complex process. Challenges to progress of ChatGPT in patent regime are both scientific and non-scientific. We will focus on the later, i.e., legal, and ethical framework of ChatGPT in patent domain. The key issues of ChatGPT in legal domain are given below.

2. Patent Inventorship

Since ChatGPT can invent based on knowledge it has, there are some serious legal and ethical questions. ChatGPT can take the inventive leap which a human cant. The issue of inventorship serves as a diversion from the more pertinent, significant, and far-reaching concerns regarding the application of patent law to ChatGPT-assisted creations. Proponents of ChatGPT inventorship argue that recognizing ChatGPT as inventors can promote innovation by recognizing ChatGPT's place in the creative process, provide ChatGPT-generated inventions transparency and due credit and clearly define who owns and has the right to license inventions produced by ChatGPT.

Opponents claim that ChatGPT is not an inventor since it does not have the agency, intent, or consciousness necessary. The patent system may place less weight on human inventiveness and originality if ChatGPT is granted inventorship. Currently inventions developed by ChatGPT fall into "legally grey areas." Most patent systems only identify individuals as inventors,[3] not companies[4] or machines (Hattenback & Glucoft, 2015). "Inventor" in US Patent law is an "individual" or "individuals" who "invented or discovered the subject matter of the invention" 35 U.S. Code § 100(f).

One persistent, but erroneous, argument is that any human or machine that engages in a certain "inventive activity" is entitled to the label of "inventor." A human's decision to patent and reveal an innovation is largely driven by a variety of financial, professional, and personal considerations, most notably the possibility of higher earnings due to the market exclusivity that patents grant. A young engineer may be motivated by the prospect of professional recognition, financial gain from a commercial success, or the sheer delight of solving a meaningful challenge. By providing a term of exclusivity, the patent system gives them the assurance that their hard work will not be readily replicated and that their time, money, and intelligence will be well-rewarded. Moreover, the prospect of patent protection tends to encourage inventors to divulge their discoveries. Because it expands the body of public knowledge and enables others to build upon earlier ideas, this disclosure benefits society. Human inventors may be more likely to preserve their inventions as trade secrets if they are unsure about getting protection for them. This would still enable the inventor to make money from private sales and licenses, but it may also impede the public's access to new information. ChatGPT being AI can't avail the benefits of the patent system and its useless for it to be an inventor. An artificial intelligence system like ChatGPT is without needs, goals, or desires. It will not become demotivated if its name is not listed on a patent. Hence, ChatGPT systems as patent inventors is not justified. Even if ChatGPT is allowed as an inventor, it will not change its rate of innovation or the quality of its output. Naming ChatGPT on these patents will not make it more efficient, creative, or driven. Regardless of the praise or the extra money ChatGPT will get, it will keep working the way it was designed to. The patent system's incentives, which are meant to promote innovation, are ignored by insensitive algorithms. Since ChatGPT is emotionless, desireless, and unconscious, it has no desire for career advancement, monetary gain, or social recognition. If ChatGPT ever responds to the incentives offered by the patent system, that might be different. However, until then, the only names that should appear in the "inventors" part of a patent should be human names.

If granting it inventorship is agreed, ChatGPT as a sole inventor will not be a wise decision. However, where ChatGPT and person jointly contributed for an invention, then Patent Office (PO) needs to reconsider its decision allowing joint inventorship to a human and ChatGPT. For this, the PO and the

[3] *35 U.S.C. § 100(f).*

[4] *New Idea Farm Equip. Corp. v. Sperry Corp., 916 F.2d 1561, 1566 n.4 (Fed. Cir. 1990).*

courts need reinterpretation of inventor. Similarly, the question of inventorship and ownership of ChatGPT for patents created by the ChatGPT itself without doing any experimental work needs reconsideration. If ChatGPT, is included as an inventor with natural persons, it will increase the patentability standard as most ideas will be obvious. The examination of ChatGPT-created patent applications by natural persons having less knowledge than ChatGPT will raise questions.

3. Person of Ordinary Skill in the Art (PSA)

The PSA or "person skilled in the art" (PSITA) is a key element of patent law as novelty, inventive step and claim construction, all depend upon the PSA. An invention is novel if it's not part of the state of the art (SoA) which is distinguished as "everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application (Art. 54(1) & (2). Guideline G IV&V) "[5].The claims being normative feature of a patent govern the limits of the claimed invention and hence scope of protection offered. For communicating the subject matter and scope of protection of an invention to common people to help them streamline their economic activities, a gold standard is required. It led to the creation of a skilled person in patent laws. This PSA decides the objective substance of patent claims and the disclosure limits of patent specifications. The claims are interpreted in the light of objective understanding the invention based on his expert knowledge. PSA is a fictitious person, neither a PhD or Nobel prize winner but a normal expert of the field of invention having average knowledge, practical expertise, and skills. He is aware of all the prior art (i.e., the existing knowledge, inventions, or technologies) in that field and can understand the patent application and its claims. The PSITA has no territorial limits. ChatGPT is trained on information "*available to the public"* hence apparently it can't craft new and non-obvious claims as it can generate text based on known knowledge (the antithesis of a novel, inventive concept). Information disclosure to ChatGPT can be counted as public disclosure by patent office, hitting the novelty rendering it unpatentable. Nearly all patent laws require absolute/strict novelty. Disclosure to ChatGPT without non-disclosure agreement (NDA) can demolish it. Reliance on ChatGPT may diminish the critical thinking and problem-solving that innovators and attorneys frequently engage in. ChatGPT can't discuss the invention with an inventor, and hence cannot discover the information necessary for an invention disclosure.

The granting of a patent also requires it should have inventive step which is assessed by its obviousness to PSA, i.e., whether PSA can reach this solution in view of the state of the art. Usually the state of the art (SoA) is made up of two documents disclosed in very different technical fields and where the PSA of one specific technical field would never have searched in a very different one. If the invention is obvious to PSA, it can't be granted a patent. PSA can be a team of people with different skills. The person is believed to possess the "common general knowledge", known to ordinarily skilled or qualified persons of specific domain. PSA is a person with average knowledge who can interpret and manage the knowledge of the documents constituting the SoA in their specific field and, assess whether the solution would be obvious to this person. PSA does not necessarily have to be a natural person; it can be an analysis instrument.

Person having ordinary skill in the art (PHOSITA) of US or European person of ordinary skill in the art (POSITA), both have 'ordinary' knowledge. PSITA is an imaginary person with a certain modicum of creativity who owns knowledge about all prior arts that existed before the priority date. In the US, PSA is thought to have certain creativity. The US Supreme Court in the KSR case (*KSR International Co v Teleflex Inc et al*) declared: "[A] person of ordinary skill is also a person of ordinary creativity, not an automaton". In Europe, PSA is considered to have access to whole knowledge in the SoA and enjoy the resources and capacity for routine work and experimentation which are normal for the relevant technology (European Guidelines for Examination', Part G, Chapter VII, section 3). Although EPO

[5] https://www.epo.org/en/legal/guidelines-epc/2023/g_iv_1.html#:~:text=An%20invention%20is%20%22considered%20to,of%20the%20European%20patent%20application%22 (Accessed 23 December 2023).

examination guidelines don't clearly specify whether PSA should have creativity, in the European legal precedents, PSA is presumed to have certain creativity. The common rule for PSA is that "if a technical solution can be reached through logical analysis, reasoning or limited experiments, it is obvious".

ChatGPT may influence one of the most fundamental doctrines of patentability because the PSA may no longer be a person. With the rise of ChatGPT, the question arises who (or what) is that "person"? Is it the ChatGPT itself? Is it the AI professional or experts against whom the ChatGPT is compared? The answer to these questions will decide the patentability of an invention and its scope[6]. ChatGPT based PSA will significantly increase the volume of prior art and a patentable subject matter by a PSA. Since ChatGPT can access the maximum knowledge available, would any invention still be patentable, or would everything be rendered obvious? If ChatGPT can be an inventor, it can be a PSA too hence the Pos and courts will have to reconstitute the "PSA and the invention". Sufficiency of disclosure (SoD) is an important requirement for granting of a patent. Based on sufficiently disclosed invention, PSA must be able to reproduce the invention. Since ChatGPT requires a training phase, its final behaviour depends upon its design as well as on the data fed during training phase.

4. ChatGPT as Patent Attorney

ChatGPT is faster, able to search large datasets of patents quickly and identify patterns and trends in the patent landscape. By offering suggestions regarding novelty and inventive steps of invention, ChatGPT can streamline the patent drafting. It can reduce the time and effort required for drafting applications because of its capacity to comprehend complicated technological concepts and produce coherent descriptions. ChatGPT can improve the precision and coherence of the written claims and descriptions. It can provide immediate feedback regarding mistakes, inconsistencies, or missing data in the patent application. This will improve the quality of drafted applications reducing the rejections or challenges throughout the patent grant procedures. ChatGPT can offer thorough information and direction throughout the patent drafting process. It can help in accessing the relevant prior arts, identifying potential patentability problems, and providing perceptions into the current patent ecosystem. ChatGPT can help to make better judgments and draft stronger patent applications. The cost of patent writing assistance can be greatly decreased due to easy availability of ChatGPT. The input and output in ChatGPT are jointly known as "content" as per ChatGPT terms of use.

ChatGPT can expedite the research cycle and patenting process thus slashing time and monetary costs. It can help understand requirements of patent office, prosecution and litigation and draft patent according to practices being followed in these offices. The round-the-clock availability, multi-lingual ability and untiring can help decipher complexities of relevant domain. It can help in finding prior art, legal precedents, case laws helping make informed decisions. It can suggest jargon for use in different parts of a patent application like claims, specification, and embodiments. It can swiftly respond to common questions being asked by any of these offices and clients. It can help manage patent portfolio including but not limited to generating reports on patent landscape, freedom-to-operate, status of filed, pending, revoked, and granted applications and identify tentative infringement problems. It can help in capacity building of patent attorneys by helping learn latest developments in technical and legal fields. It can be helpful in mergers and acquisitions of companies. Patent drafting is a time-consuming and complex job, which often requires legal expertise and specialized knowledge. Traditional office processing can lead to delay and can't meet deadlines. The sifting of huge volumes of patent applications is quite heft job. ChatGPT can be used with humans in the loop to produce a high-quality draft of patent application. It can be used to search large patent databases and identify relevant prior art by the patent examiner. Quality and coherence of text in a patent application can be improved leading to a high-quality patent application.

[6] https://www.limegreenipnews.com/2016/07/artificial-intelligence-drives-new-thinking-on-patent-rights/ (Accessed 23 December 2023).

Despite all these wonderful jobs, it cannot substitute the human patent attorneys as it lacks wisdom, foresight, insight, and practical experience of a human patent attorney. The patent attorney knows many rules of thumbs, best practices and design-around potential when drafting a patent application and/or preparing a rebuttal to office response. It lacks common sense and can yield responses which are technically incorrect or insufficient lacking depth of knowledge. It can't remember previous communications and lacks context awareness so can't behave like a human. The sole dependence on prompts ignoring body language affects quality and response of output. It lacks conscience, and creativity and can yield inconsistent or incorrect output. It may not comprehend the patent technicalities yielding very simple or legally flawed claims. If the data used to train ChatGPT is biased, the output will be biased too. The incorporation of AI in legal practice may raise ethical questions, particularly regarding ChatGPT bias and the transparency of decision-making processes. This may have implications for liability insurance and ethical responsibilities. Patent applications must adhere to specific requirements in each jurisdiction. ChatGPT's current limitations in comprehending the nuances of patent law necessitate the involvement of experienced patent attorneys to ensure compliance. Although copyrights of this content belong to user, ChatGPT can review and/or use it. Hence the input may be considered a sort of prior disclosure prohibiting patent grant. ChatGPT will increase the bar helping patent office reject application based on obviousness to combine those references which, currently, are not obvious to combine certain references to arrive at a claim combination.

Claim-writing is a core legal process, and it may be very early to expect Chat GPT to do a good job at it[7]. Amongst other requirements, the claims must be new (novel) and demonstrate an inventive step. Novelty and inventive step are assessed by identifying differences between the invention and the state of the art. It is through use of information "*available to the public"* that the model is trained. Therefore, it appears ChatGPT is inherently incapable of drafting new and non-obvious claims as it only has the functionality to produce text based on known knowledge (the antithesis of a novel, inventive concept). The key message to inventors who want to seek patent protection for their invention is not to publicly disclose it before obtaining a filing or priority date. In this regard, there have been concerns raised over Open AI's privacy policy and the ramifications for patentees relating to this. OpenAI's privacy policy states that Open AI may use personal information for several purposes, such as developing new programs and services, which could amount to a public disclosure. Accordingly, there is a high risk that using ChatGPT to draft your patent application (and therefore disclosing your invention via 'personal information') could count as a public disclosure and hence render any subsequently filed patent application as unpatentable, because the requirements for novelty are not met .It is important for inventors and patent professionals to consider that data relating to an invention disclosed to ChatGPT, could be used to train the model and eventually be provided as an output to another user. This risk is palpable and accordingly, many tech giants have banned employees from using ChatGPT amidst fears that usage of the chatbot could result in the leak of confidential information. Accuracy and objectivity of the recommendations should be carefully assessed. The patent application drafted by ChatGPT should be reviewed and refined by patent attorney to maximize the likelihood of success. ChatGPT can help with preliminary research, such as understanding a technology, finding relevant keywords or synonyms, and finding broad level products. To keep results within scope, it requires continual human involvement, which essentially negates the tool's primary function. This makes it essential to validate and verify all its responses by patent and technology experts. Technical components of a patent and the legislation governing patents must be thoroughly understood. Explaining complex inventions and their technical features is a requirement of patent drafting and ChatGPT can't fully comprehend these intricate technical terms. Inaccurate descriptions may result in patent applications that fall short of capturing the actual spirit of an invention, which could weaken the patent or cause it to be rejected during the examination process. Although ChatGPT can produce meaningful language, it lacks the legal knowledge to understand the intricate nature of patent rules and regulations required for valid and

[7] https://brill.com/display/title/10683?language=en (Accessed 30 December 2023).

enforceable patent claims and descriptions. Patents and technical documents are among the vast volumes of data used to train language models like ChatGPT. They lack the contextual awareness and original problem-solving skills that human patent professionals have, though. Finding unique elements of an invention and creating claims that offer the greatest potential protection are frequently skills needed when drafting patents. Because of its dependency on pre-existing data, ChatGPT is unable to come up with truly original solutions or suggest viable other strategies. This restriction might reduce the strategic utility of patents and make it more difficult for inventors to defend their rights against possible infringers. If an inventor uses ChatGPT to draft a patent application, it will require further legal input from a patent attorney to ensure the information is accurate and in line with the Law. A patent professional will anticipate potential issues the application may face during prosecution (potentially in respect of current advancements in the field) and draft the application with these in mind. This level of nuance does not appear to be possible with the knowledge limitations placed on ChatGPT. ChatGPT can increase the risks of disclosure or confidentiality presented when using generative AI in patent application drafting. Inventors share comprehensive details of their innovations to gain exclusive rights, but premature release of the wrong information is problematic. Other potential issues, such as inadvertent copyright infringement, "hallucinations" of fake facts, and/or AI potentially doing a bit too much "inventing" also in need consideration but preventing early disclosure and maintaining confidentiality are the first and biggest hurdles. Interaction with ChatGPT during patent application preparation could be considered a public disclosure.

Patent attorney has in-depth knowledge of the patent landscape and the nuances of patent language, can identify relevant patents based on their technical content, understand complex patent claims, and identify trends in the patent landscape. ChatGPT does not understand the nuances of human language, miss relevant patents, or to return irrelevant patents and unable to identify complex patent claims. A patent attorney involvement makes a patent look like a patent. ChatGPT lacks this element. But the question is does it matter if product is same. If a food is cooked in a restaurant and cooked by parents, does it make any difference if it has same calories. ChatGPT is expected to detect any missed element by patent attorney in patent application, and manage it, all with nominal human intervention in near future.

5. Searching Patent Literature

Patent attorneys spend lot of time in patent databases browsing the patent literature after adjusting search formulas. ChatGPT has better keyword expansion capabilities compared to humans. ChatGPT can automate the data processing, and extraction and analysis of information which was performed manually by patent attorneys. ChatGPT can extract main information from the text and devise a search formula automatically. This formula can be used to search databases replacing patent attorneys. Although this formula may not be accurate, it can be directly replicated to the search database for searching, bypassing the manual entry of logical operators and parentheses. ChatGPT can enhance the efficiency of patent attorney for patent search to a limited extent, mainly during the preliminary analysis by altering the search formulas, e.g., keywords addition or deletion, switching a search element with a classification number, and modifying the search fields.

Handing over the technical text of patent to ChatGPT without any knowledge of the basic elements of patent search to construct the search formulas will not yield any fruitful search results. ChatGPT is unable to search patent databases in real time being a semantic response model. Hence its answers may be unauthentic for patent search. Although ChatGPT can rapidly provide classification numbers as numerical or code numbers, these can be inaccurate and should be used with caution. Expertise in basic search elements is significant for a patent attorney's skill to complete search tasks. ChatGPT cannot determine the best keywords for basic retrieval from its own extracted keywords. Adjusting the search formulas and browsing the patent literature searched are main elements of patent search. Although keyword expansion potential of ChatGPT is better, general patent databases can also do it. Hence,

ChatGPT is only good for keyword expansions, without substantively improving the quality and efficiency.

6. Fading and Vaporization of Mental Faculties

ChatGPT usage will decline the human imagination who will compromise quality of work just for their rest. Research skills will fade away since answers will be instantly accessible from ChatGPT. People will stop working on novel ideas, instead depend upon AI to produce infinite possibilities from which they can simply pick a suitable one. The human intellects, devoid of proper exercise, will weaken. Human culture will descend into a pernicious feedback loop: ChatGPT will scrape information from the web, which user will feed back to the internet, and the bots feast once again on what they've more or less just excreted.

ChatGPT work or writeup is just computation lacking feelings, imaginations, sweat of the brow, and involvement of patent attorney or inventor or examiner. Even students lack imagination and creative writing and ChatGPT can catalyse their interest in nurturing both. For correct information and in compliance with law, it will require vetting by a human. The human will draft it keeping in mind prosecution and litigation issues and is not possible with current version of ChatGPT. Since ChatGPT does not quote sources, it may liquefy the importance of authorship and copyrights. It may focus the unimportant part of the question leaving important portion unanswered. Similarly, it may not sift emerging technologies data.

7. Lack of Human Judgment

The data that AI models are educated on determines how well they perform. The AI model may reinforce prejudices if the training data has biases or reflects existing disparities. Biased training data could produce unfair results when drafting patents, favouring invention categories, or omitting underrepresented inventors and technologies. ChatGPT lacks the moral foresight required to take wider societal ramifications into account when designing patents. This raises questions about the likelihood of unforeseen repercussions or unethical usage of patent applications created by AI. ChatGPT lacks the nuanced judgment and legal expertise of human patent attorneys, particularly in understanding the intricacies of patent law, interpreting prior art, assessing inventive step and novelty, and considering filing strategies. Trusting that the AI model has been sufficiently trained on all the pitfalls that the attorney understands through years of experience and training is a highly risky strategy.

Patent analysis is closely dependent on interpretation and analysis to establish equivalence. To be done well, it requires a balance between leveraging data, utilizing technology, and understanding the art and context behind an invention. While ChatGPT has been a revelation to the world, at this point it does not have the ability to outperform a patent professional. ChatGPT does not have access to patent or non-patent databases. This becomes detrimental to the accuracy of its responses. ChatGPT often shows incorrect patent information for a patent number search, incorrect bibliographic information, and returns highly irrelevant patent numbers. Classification of patents is a critical aspect of patent search, making ChatGPT useless for classification-based searching. ChatGPT provides incorrect classification codes and even shows incorrect definitions of patent classifications.

Regarding summarizing a patent claim, ChatGPT simply paraphrases the text available in the claim, without any elaboration on the scope of the claim elements. By only recapturing portions of the abstract, prime teaching, and claims, it fails to identify a patent's essential elements. ChatGPT is unable to provide relevant prior arts or products around an input patent, claim, or key feature. It could not identify a knock-out art because it could not support complex search strings. ChatGPT fails to interpret a patent or draw logical inferences from different features of the prior-art. ChatGPT does not analyse the prosecution history of a patent to report relevant prior art. This keeps the tool from understanding the novelty of a patent, establishing critical cut-off dates, and estoppels, etc. Prior art may not be

searched organically by ChatGPT, although this largely depends on the user. ChatGPT can provide keywords for searches and can provide excellent boolean search strings for searching the databases. While it can open some mental doors and make many other tasks more efficient, it still requires intervention/knowledgeable oversight.

One major question is the subject matter eligibility. To secure a patent, a ChatGPT-based invention should be more than an "abstract idea". This may not be the case for ChatGPT-based inventions. As ChatGPT learns and adapts its external behaviours, it is likely that a resulting product or process might infringe one or more patent claims. Proving patent infringement and induced infringement may be difficult to run on sophisticated systems that change data in a creative way[8]. Existing acts and precedents do not explicitly consider a machine or program as an infringing party.

8. Tort

Presently, natural persons assume legal (criminal and/or civil) accountability for consequences of their actions, leading to criminal charges or liability for damages. Similarly legal persons such as corporations are now believed to assume similar legal responsibility[9]. The current legal system does not recognize ChatGPT as a responsible subject[10].To whom to turn to when ChatGPT yields a false result? Will liability rest with ChatGPT itself? If so, what would be the appropriate punishment?[11]. But how does one penalize a machine or an algorithm if they don't earn pay checks? Their manufacturers do, of course, which brings us back to holding companies accountable. What if ChatGPT has been infected with a virus, will there be ChatGPT diminished responsibility? Courts have not handled these issues yet, but they will need soon. The developments in ChatGPT will therefore require an examination of the established principles of liability and a revised legal framework is needed to properly assign responsibility and identify liability.

9. Human Dignity

What will be effect on people's sense of self-respect and social loneliness in care situations? Humans have characteristics that ChatGPT may not be able to realistically possess, such as kindness. There are also discussions about whether some human knowledge is implicit and cannot be imparted. Currently, ChatGPT may not substitute tacit knowledge that cannot be categorised definitely.

Although AI is presumed to be biases-free (experience-based as well as social), it may be more biased if it relies on skewed data. AI's inner mechanisms can be very difficult - if not impossible - to trail, elucidate and critically appraise. These advanced abilities are accruing largely with private parties and are mostly proprietary. What if these big companies establish monopolies and don't share with small start-ups/poor countries? This narrow analysis of ethical problems summonses a calculating approach and implies a too naive metrics in human affairs. Since it is an emerging field, so very little work exists on this topic (Roger & Nicholson, 2016; Bøhler,2016), therefore still there is lot to research and devise strategy to answer above mentioned questions or otherwise perhaps AI will answer these questions as per its own interests.

10. Conclusions

ChatGPT can be a sophisticated tool of aiding invention ecosystem. Patent professionals and inventors can make the most of their strengths and minimize their limits by being aware of the possibilities of AI language models such as ChatGPT in the context of patent applications. Making informed decisions

[8] http://www.patent-art.com/whitepapers_content3 (Accessed 30 December 2023).

[9] *See* 4 Supra

[10] https://www.future-science.com/ (Accessed 30 December 2023).

[11] https://www.lawcareers.net/Information/CommercialQuestion/Olswang-LLP-Can-a-robot-be-responsible-when-it-makes-a-mistake-AI-and-the-law (Accessed 30 December 2023).

about when to use and rely on ChatGPT is possible by identifying the technological domains in which ChatGPT can offer insightful information. Use of ChatGPT can enhance patent drafting efficiency, ensuring accuracy and consistency, by accessing the comprehensive knowledge. However, inaccuracies in technical understanding and lack of legal knowledge can be a challenge. In the end, utilizing ChatGPT and other AI language models should be taken as a supplementary tool fer human intelligence rather than a substitute. By finding a balance between the two, patent experts and inventors can take advantage of the potential benefits of ChatGPT while ensuring the quality and validity of their patent applications.

References

Bøhler, H.M. "EU copyright protection of works created by artificial intelligence systems". Master's Thesis (2017). University of Bergen, Norway.

Ford, R. A., & Nicholson, W.P. "Privacy and accountability in black-box medicine". *Michigan Telecommunication & Technology Law Review* 23, no. 1 (2016):1-43. https://ssrn.com/abstract=2758121 .

Hattenback, B., & Glucoft, J. "Patents in an era of infinite monkeys and artificial intelligence*". Stanford Technology Law Review* 32, no. 46 (2015)33-50. https://law.stanford.edu/publications/patents-in-an-era-of-infinite-monkeys-and-artificial-intelligence/ .