



IPO Artificial Intelligence and Intellectual Property: call for views Trade Marks

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1. If AI technology becomes a primary purchaser of products, what impact could this have on trade mark law?

The impact of this development on trade mark law will depend on exactly how the AI is used in the purchasing context. AI technology is currently used in the purchasing process both as a virtual assistant and in creating product recommendation systems. The use of AI in these ways involve significant human input. If AI becomes a primary purchaser of products with little human input, however, this may lead to changes in the normative underpinnings of trade mark law, as axioms about the purpose of trade marks vis-à-vis the behaviour of human consumers becomes less applicable.

Where AI technology becomes the primary purchaser of products, these purchasing decisions will likely be data driven rather than emotive. The value of trade marks as rich symbols of meaning, and their advertising function, might be reduced as AI technology starts to play a greater role in purchasing decisions.¹ Individuals could set AI assistants to buy the cheapest available goods, with little regard for the source of the product. A purchasing decision made only on the metric of price and subject to certain quality requirements (e.g. product features), rather than source or brand, lessens the importance of the essential function of marks as an indicator of origin. While many consumers already make purchasing decisions on the basis of price rather than brand,² this may become a more widespread practice as AI becomes more prevalent. It is, however, unlikely that purchasing decisions made by AI assistants will be based solely on price and quality for all consumers, given the success of machine learning in personalising service offerings to boost consumer relationships with brands.³

The use of AI technologies as primary shoppers may not mean the death of brands. AI technologies are fully capable of being used to learn about a consumer's values, affective

¹ Jennifer Davis, 'The Value of Trade Marks: Economic Assets and Cultural Icons' in Y Gendreau (ed), *Intellectual Property: Bridging Aesthetics and Economics* (Themis, University of Montreal 2006)

² Especially for consumers living in more rural areas where there is less selection available for equivalent products, and those living in lower-income brackets.

³ Adam West, John Clifford, David Atkinson, "Alexa, Build Me a Brand" An Investigation into the Impact of Artificial Intelligence on Branding' (2018) 9 *The Business and Management Review*, 321, 327

preferences, and brand preferences, basing product recommendations not only on price but also a shopper's past purchases, such as AI systems already in use, including Amazon's product recommendation system.⁴ A consumer's online activities, which may include their social media engagement, is inevitably informed by the brands they engage with online. Where AI technologies are designed to become intimately acquainted with consumer's values and preferences, the role of a brand may remain a central aspect of AI-assisted online purchasing.⁵

More generally, AI technology is less likely to be confused by use of similar marks on similar goods due to its ability to access and interpret vast amounts of contextual information. Even if an AI technology was "confused" on one occasion,⁶ it is unlikely to make the same mistake again.⁷ It is also important to recognise that AI might be misled if the information it relies on is misleading.⁸ Alternatively, this may mean that while there may not be confusion in the purchasing context, issues with regard to post-sale confusion may become more prevalent.

If AI technology develops so that it purchases and ships goods to consumers without any human interaction, while there may have been no confusion at the point of sale, downstream, the person receiving the purchase may still be confused as to the origin of the goods bearing the mark.⁹ The doctrine of post-sale confusion may therefore be more frequently invoked in disputes, leading to doctrinal development in this area. Whilst many scholars have argued that findings of infringement where there is no confusion in the purchasing context has led to trade mark law being extended far beyond its *raison d'être*,¹⁰ new uses for AI technologies may justify the expansion of trade mark law in this way in order to increase protection for those who will ultimately consume the products purchased by AI.

2. Are there, or could there be, any difficulties with applying the existing legal concepts in trade mark law to AI technology?

The most obvious difficulty in applying existing legal concepts in trade mark law to AI technology is with regard to the "average consumer" which has always conceived of a *human consumer*.¹¹ This issue is discussed more fully in relation to question 3.

Other trade mark doctrines, such as initial interest confusion, may be affected and engaged by the use of AI technology. For instance, initial interest confusion claims may inhibit, or modify, how AI technologies provide consumers with recommendations, if we assume consumers will somehow read recommendations for alternatives as confusing. An alternate approach, as has been the case in the United States with regard to initial interest confusions claims regarding online search results,¹² is to recognise that consumers play a more engaged role in assessing the context of third-party use of a mark given the limitations of the trade mark regime. For example, they are unlikely to presume that a list of alternative wrist watches suggested by the

⁴ See for example Anh Tan, 'Artificial Intelligence in Ecommerce Case Amazon' (Thesis, Centria University of Applied Sciences), 25 - 27

⁵ Adam West, John Clifford, David Atkinson (n 3)

⁶ We suggest the concept of "confusion" itself, rather than inaccuracy, is at its core a human attribute as AI technology cannot experience uncertainty in the same way that natural persons do. While it is outside the scope of this submission to discuss this further, it is illustrative of how trade mark law doctrine has been developed with an understanding of the human consumer in mind.

⁷ Michael Grynberg, 'AI and the "Death of Trademark"' (2019) 108 Ky LJ 199, 205

⁸ Douglas Heaven, 'Why deep-learning AIs are so easy to fool' (2019) 574 Nature 163-166

⁹ Lee Curtis and Rachel Platts, 'AI Is Coming and It Will Change Trade Mark Law' (2017) 271 Managing Intell Prop 9, 11

¹⁰ Mark A. Lemley and Mark McKenna, 'Irrelevant Confusion' (2010) 62 Stanford L Rev 413

¹¹ See n 2

¹² Michael Gynberg (n 7), 226 – 227; Multi Time Mach, Inc, 804 F3d

online marketplace AI are somehow versions of the (unavailable) watch they originally searched for. While some consumers may see the results of a search with reference to a trade mark to be affiliated or sponsored by the relevant mark holder, the majority of informed consumers would understand that the results are simply similar alternative products if they do not bear the trade marked term in their listing.¹³

Similarly, other doctrines premised on non-confusing mental links or association, such as some dilution claims, may be implicated by AI technologies providing recommendations in ways that are not yet clear. The use of AI technologies posing recommendations does not necessarily create any *difficulties* applying these legal concepts, but given how they may intersect may affect the doctrinal development of these trade mark law doctrines, and associated concepts.

The nature, and existence, of the trade mark registry underpins many trade mark law doctrines. As AI technology becomes more prevalent, one of the first areas being impacted is the trade mark register.¹⁴ A primary way in which this impact is occurring is by the use of AI technology by registries and individual applicants in determining whether potential conflicts exist.¹⁵ To date, AI technology is being used to assist human actors in determining potential conflicts rather than performing the analysis independently. In some instances, however, overcautious AI technology will still lead to false positives and exacerbate issues regarding register clutter.¹⁶ For example, AI technologies may be more likely than human examiners to find semantic similarity, and may assess similarity of goods on the basis of Nice classification number rather than the nature of the goods themselves. AI technologies are additionally more liable to ignore additional elements incorporated into the broader multifactor likelihood of confusion test such as evidence of market conditions and the construction of the average consumer of the goods in question.¹⁷ This may lead to new applicants being discouraged, or prevented, from applying for new marks on the basis of potential conflicts.¹⁸

3. Does AI affect the concept of the “average consumer” in measuring likelihood of confusion?

In terms of the average human consumer, we will be living in a blended “bricks and clicks” environment for the foreseeable future, and purchasing will remain both online and offline. While there will be an increasing role for AI technologies in the online purchasing environment, any “average consumer” concept modified by AI ought to be restricted to the online shopping space.

¹³ Michael Gynberg (n 7), 226 – 227

¹⁴ Difficulties are, therefore, raised not only in applying existing legal concepts to AI technology, but also in AI technology applying the existing legal concepts and this may impact upon the functioning of the register and in turn, the legal regime.

¹⁵ Dev S Gangjee, ‘Eye, Robot: Artificial Intelligence and Trade Mark Registers’ (October 10, 2019) Forthcoming in N Bruun, G Dinwoodie, M Levin & A Ohly (eds), *Transition and Coherence in Intellectual Property Law*, (Cambridge University Press, 2020) <<https://ssrn.com/abstract=3467627>> accessed 14 Nov 2020 see also Anke Moerland and Vieites Novaes de Freitas, Conrado, ‘Artificial Intelligence and Trade Mark Assessment’ in R Hilty, K-C Liu & J-A Lee (eds), *Artificial Intelligence & Intellectual Property* (Oxford University Press 2021), Chapter 13 < <https://ssrn.com/abstract=3683807>> accessed 29 Nov 2020

¹⁶ Gangjee (n 15), 11

¹⁷ *ibid*, 11 – 12

¹⁸ This is problematic in light of recent findings that certain markets are already experiencing an over-cluttering and depletion of effective marks. See Barton Beebe and Jeanne C Fromer ‘Are We Running Out of Trademarks? An Empirical Study of Trademark depletion and Congestion’ (2018) 131 Harv L Rev 945

As discussed above, AI technology is being used by registries to determine conflicts between marks. Using solely, or predominately, AI technology to analyse potential conflicts will be seen as a desirable and attractive option to some, as it is an economical and efficient way to identify potential conflicting marks. If AI technology is adopted in this capacity, it may eventually lead to registries bypassing the normative metric of the average consumer completely as AI technology struggles to take into account broader factors within the likelihood confusion test, including issues of reputation and the construction of the hypothetical average consumer of the relevant goods.¹⁹

When considering the similarity of two marks, registries and courts compare the marks from the perspective of the “average consumer” of the relevant goods of services for which the marks have been registered or applied for. Even if the “average consumer” concept is not completely bypassed as a result of the use of AI technology by registries, this concept is premised on assumptions about consumption practices and consumer psychology that do not apply to AI technology.

The nature of AI technologies is inconsistent with several of the core assumptions underlying the metric of the “average consumer.” The “average consumer” is deemed to be reasonably well informed, circumspect, and observant and does not often have the chance to make direct comparisons between marks, instead relying on imperfect recollection, with levels of attention varying according to the category of goods in question. In relation to specialist, technical or expensive goods, the “average consumer” is deemed to have a higher level of attention and is therefore considered less likely to be confused. AI technology, in contrast, has the opportunity to compare marks side by side and has access to various databases to provide contextual information relevant to preventing confusion.²⁰ AI technology is more than reasonably observant and circumspect, with levels of attention varying depending on the nature of the goods. However, it may be the case that levels of human involvement in the purchasing context may vary depending on the monetary value of the goods involved. Furthermore, the use of AI technology in making purchasing decisions may require certain aspects of the analysis of the perception of the “average consumer” to be given more importance than others. For instance, with use of virtual assistants to make purchases, consumers often provide verbal commands and receive verbal responses from the AI, phonetic similarity may be of more importance and arguably may need to be given more weighting than visual and conceptual similarities when analysing similarity due to the issues of “slurring.”²¹ Whilst the use of AI technology may require modifications to the concept of the “average consumers,” these must be restricted to the online shopping space, given that for the foreseeable future many transactions will still take place offline.

4. What is the impact of AI on the drafting of section 10 of the TMA? Can AI “use in the course of business” a sign which may be confusingly similar or identical to a trade mark?

AI technology is liable to be used in many different ways, some of which may result in the use of a sign in the course of business and this may lead to AI technology infringing a registered trade mark.

¹⁹ Gangjee (n 15) 12, 14

²⁰ Michael Gynberg (n 7), 211

²¹ Lee Curtis and Rachel Platts, ‘Alexa, What's the Impact of AI on Trademark Law’ (2019) 281 *Managing Intell Prop* 43

The use of AI technologies may be analogous to cases involving other basic forms of AI such as *Google France*,²² *Lush v Amazon*²³ and *L'oreal v Ebay*.²⁴ Whether AI is using a sign in the course of business may depend, in part, on the relationship between the AI technology provider and the store through which the product is sold. If the AI provider and the advertiser are one and the same, as was the case in relation to Amazon's search engine in *Lush v Amazon*, the search results and any operational elements such as drop down menus featuring suggested searches, will be part of a commercial communication and therefore use of a sign in the course of business.²⁵ More sophisticated AI technology used in generating product recommendations, or in assisting purchases may therefore also use a sign which may be confusingly similar or identical to a trade mark in the course of business.

In line with *Google France*, in instances where the AI technology is simply acting as a service provider in storing and using the mark for the purposes of advertising a product for sale on behalf of a third party, the AI would not be using the mark in the course of business (but the provider/owner of the AI may become liable for the infringement in line with Article 14 Directive 2000/31 once they have been put on notice of an infringing use).²⁶

5. Can the actions of AI infringe a trade mark?

As discussed above, whether AI can infringe a trade mark will depend on the role the AI is playing in the purchasing process. Following earlier case law, whether AI technology has infringed a trade mark may depend on the form in which online searches for products are presented to customers, rather than how AI processes the trade mark internally.

6. If AI can cause trade mark infringement, does this change who could be liable? Should it be the owner, the operator, the programmer, the trainer, the provider of training data, or some other party?

The introduction of AI technology should not change the general application of trade mark law that assigns liability in accordance with the normative framework that seeks to ensure that trade marks are used in a healthy, competitive and transparent market. Therefore, following the previous case law discussed in response to Question 4, liability will depend of the relevant circumstances of the case including who the AI belongs to and how the AI is being used in the purchasing process, as well as whether providers and owners have adequately responded to notices of infringement.

²² Joined cases C-236/08 to C-238/08 *Google France, Google Inc. v Louis Vuitton Malletier* [2010] ECR I-02417

²³ *Cosmetic Warriors and Lush v Amazon.co.uk and Amazon EU SARL* [2014] EWHC 181 (Ch)

²⁴ C-324/0 *L'Oréal SA and Others v eBay International AG and Others* [2011] ECR I-06011

²⁵ *ibid*, para 57

²⁶ *Google France* (n 22), paras 58 and 120