

INTELLIGENT TRADEMARKS

“Is Artificial Intelligence Collides With The Trademark Law?”

Sometime early in this century the intelligence of machines will exceed that of humans. Within a quarter of a century, machines will exhibit the full range of human intellect, emotions and skills, ranging from musical and other creative aptitudes to physical movement. They will claim to have feelings and, unlike today’s virtual personalities, will be very convincing when they tell us so. –

Ray Kurzweil (2008)¹

¹ Ray Kurzweil, “The Coming Merging of Mind and Machine”, Scientific American (23 March 2009), <https://www.scientificamerican.com/article/merging-of-mind-and-machine>;

ABSTRACT

We have entered a generation where Artificial Intelligence (AI) is creating a tectonic shift in the way people interact with the technology. Human is being replaced by the Artificial Intelligence to perform the automatic complex cognitive tasks. AI is trying to build the 'transhumanism' system where it can outperform the human capabilities. Though AI had failed to link the intelligence and consciousness but it was able to build a Neural network technology which is designed in a way works similar to the human brain. This process of AI is creating ripples in the trademark law. As AI reduces the human involvement in the product suggestion and product purchasing process then the validity of the traditional trademark law is questioned. Traditionally, trademark is treated as tool for the source identification and hence the legal protection but in the modern world the trademarks changed their character and also being used as an effective tool for both the corporate and social communication. Once the machine learning replaces the human then the aspect of source identification evaporates where as they can directly recollect the source by analyzing the data. And by this questions are raised regarding the basic tenants of the trademark law include likelihood of confusion, initial interest confusion, post purchase confusion, average consumer and imperfect recollection where AI is not going to face any of the confusions and it will perfectly recollect the source. These are some of the aspects where AI is hitting hard at the trademark law. It appears that trademark law need to adopt or reform or evolve according to the technological changes but it is highly impossible to get rid of the trademark law as long as there is an emotional chord between the consumer and brand.

CONTENTS:

- I. INTRODUCTION**
- II. DEFINITION OF ARTIFICIAL INTELLIGENCE**
- III. RELEVANCE OF ARTIFICIAL INTELLIGENCE TO TRADEMARK**
- IV. BASIC TENANTS OF TRADEMARK LAW**
 - a. DOCTRINE OF LIKELIHOOD OF CONFUSION**
 - b. DOCTRINE OF INITIAL INTEREST CONFUSION**
 - c. POST PURCHASE CONFUSION**
 - d. AVERAGE CONSUMER/AVERAGE INTERNET CONSUMER**
 - e. IMPERFECT RECOLLECTION**
 - f. VISUAL, PHONETIC AND CONCEPTUAL SIMILARITY**
- V. TRADEMARK LAW AND ARTIFICIAL INTELLIGENCE DICHOTOMY**
- VI. ARTIFICIAL INTELLIGENCE AND TRADEMARK LAW ADOPTATION**
- VII. CONCLUSION**

I. INTRODUCTION:

One of the disruptive technology that this era has produced is Artificial Intelligence (Hereafter referred as AI).² AI is rapidly expanding and is likely to touch every stratum of the society.³ AI is benefitting humans by improving efficiency and reducing the costs in production, logistics, medical sector, education, finance and farming.⁴ AI not only enhancing the social governance⁵ but also expected to disrupt the basic tenants of the trademark law.⁶

A trademark is a way of identifying a unique product or service and it is not just a logo, it consists of a letter, number, word, phrase, sound, smell, shape, picture, movement, aspect of packaging, or a combination of these.⁷

²See JAMES WALKER, “Google CEO Sundar Pichai compares impact of AI to electricity and fire”, Digital Journal (25 January 2018).
<http://www.digitaljournal.com/tech-and-science/technology/op-ed-sundar-pichai-thinks-ai-will-be-bigger-than-fire-and-electricity/article/513132>

³Civil Law Rules on Robotics - European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)), Eur. Parl. Doc. P8 TA 0051, at (2017) (hereinafter European Parliament Resolution);

⁴European Parliament Resolution, supra note 3.

⁵China AI Plan, supra note 2, at 3.

⁶Lee Curtis, Rachel Platts of HGF “AI is coming and it will change trade mark law.”
<http://www.hgf.com/media/1173564/09-13-AI.PDF>.

⁷<https://www.ipaustralia.gov.au/trade-marks/understanding-trade-marks>.

The object of trademark law is to protect the rights of persons who manufacture and sell goods with distinct trademarks against invasion by the other persons passing off their goods fraudulently as the counterfeits.⁸ Though trademark law has served its purpose efficiently to protect and preserve the consumer but the emergence of new technologies has thrown some challenges to the basic features of the trademark law.

During the last decades there are no drastic changes or disruptions in brand suggestions and product purchasing process which remained almost static, the trademark law functioned properly but the emergence of disruptive technologies like Artificial Intelligence, Internet of Things (IoT), Blockchain, Data Analytics etc are sure to impact the conventional law. Trademark law was successful in passing of three revolutions but the question remained about the AI, the fourth revolution.

During the birth of the trademark law, consumers mostly depended upon the shop assistants and based on his/her suggestion products were purchased. And the shop assistantship was hit by the first revolution where the modern self-service grocery stores were opened which resulted in the change of product purchase process. The replacement of the shop assistants not only changed the product suggestion system but also increased the likelihood of confusion among the consumers between the trademarks.⁹

⁸Supreme court of India in *Dau Dayal Vs State of Uttar Pradesh* AIR 1959 Sc 433.

⁹See *supra* note 6

Online trading prominently known as E-commerce is the second revolution and this happened due to innovation and emergence of World Wide Web (WWW). Not only trademark law benefitted from the world wide web but also faced threats from the novel aspects of Google and other search engines. Majorly the law has to deal with complexities of the keyword advertising and other issues include domain names, meta tags, and doctrine of initial interest confusion.¹⁰

“Social networking” is a buzz word among the millennials and the Gen Zers. Public are spending more time on various social networks like Facebook, Twitter, WhatsApp, Instagram and other like platforms and this networking has changed drastically the way the brands are suggested, promoted, encouraged and purchased. Trademark law has to face certain new issues due to phenomenal shift in product purchasing process created by the social media.

Knowingly or unknowingly the AI has sneaked into everyday lives and majority of the public are encountering it in the retail environment. And it is time for trademark law to deal effectively with the forthcoming fourth revolution tsunami.

This paper initially deals with the definition and relevance of the AI to the trademark law. And later part explains the basic concepts of the trademark law and how they collide with the AI.

¹⁰*Supra note 6*

II. DEFINITION OF ARTIFICIAL INTELLIGENCE:

Alan Turing, a mathematician introduced AI as a concept and during ‘Dartmouth conference’, in 1950 computer scientist John McCarthy coined the term ‘Artificial Intelligence’.¹¹ There is no proper single definition for AI which can be accepted by all the practitioners. Some define AI as computerized system exhibiting behaviour commonly thought of as requiring intelligence and others define it as system capable of rationally solving complex problems or taking appropriate action to achieve its goal in real world circumstances.¹² Based on the problem space AI deals with logical reasoning, knowledge representation, planning and navigation, natural language processing (NLP) and perception¹³ and also includes Machine learning (ML), Deep Learning (DL), artificial neural networks, expert systems and robotics.¹⁴

¹¹Exec. Office of the President National Science and Technology Council Committee on Tech., Preparing for the Future of Artificial Intelligence (2016)(referred as 2nd Obama report).

¹²2nd Obama Report, supra note 11; accord. Sachin Chitturu et al., Artificial Intelligence and Southeast Asia’s Future, McKinsey Global Inst. 4 (2017); Benjamin Alarie, Anthony Niblett and Albert H. Yoon, “How Artificial Intelligence Will Affect the Practice of Law”, Univ. of Toronto Fac. of L. 8 (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3066816.

¹³2nd Obama Report, supra note 11, (citing Frank Chen, “AI, Deep Learning, and Machine Learning: A Primer”, Andreesen Horowitz (10 June 2016), <https://a16z.com/2016/06/10/ai-deep-learning-machines>).

¹⁴Michael Mills, Thomson Reuters, “Artificial Intelligence in Law: The State of Play” (2016), <https://www.neotalogic.com/wp-content/uploads/2016/04/Artificial-Intelligence-in-Law-The-State-of-Play-2016.pdf>.

III. RELEVANCE OF ARTIFICIAL INTELLIGENCE TO TRADEMARK: The emergence of AI in everyday life and changing nature in the process of buying goods and service has increased the focus on conventional trademark law. Majority of starts ups are entering into the AI market and as per the Gartner Inc. study, it predicted that the global business value derived from AI is projected to reach from \$1.2 trillion in 2018 to \$3.9 trillion in 2022. And the major factors which sourced AI business value are customer experience, new revenue and cost reduction.¹⁵

Frontier(less) Retail, a new report on the state of retail industry which included original consumer data from the UK, US and China markets has released the key findings that 89% of US millennials and 91% of Gen Zers prefer to purchase online. 96% of Chinese respondents feared about the counterfeits and 94% about the payment security. 43% of UK millennials and 53% of UK Gen Zers order online and expect to be delivered in no more than two days.¹⁶ And a report by Statista confirmed that 38% of consumers depends upon AI guidance for the purchasing process.¹⁷

Till now the impact of AI on Intellectual Property(IP) has revolved around the patent law and patent protection of AI technologies. But at present the AI is posing a greater challenge to the trademark law. Trademark law has with stood the three revolutions self-service, E-commerce and social media but the question remained unanswered is can it deal with the AI giant?

¹⁵Gartner Inc study on Global Artificial Intelligence Business Value, <https://www.gartner.com/newsroom/id/3872933>.

¹⁶New trend report: Frontier(less) Retail - 06-15-2016 by JWT Intelligence - JWT Intelligence - <https://www.jwtintelligence.com>.

¹⁷<https://www.statista.com/topics/3104/artificial-intelligence-ai-worldwide>.

IV. **BASIC TENANTS OF TRADEMARK LAW:**

a. **DOCTRINE OF LIKELIHOOD OF CONFUSION :**

The rationale for the trademark protection is to preserve the distinctiveness and commercial magnetism of marks without regard to consumer confusion.¹⁸ Law gives much prominence to marks such that the consumers need not actually be confused but the likelihood itself amounts for liability. Confusion is created at different stages of purchasing process. Primarily ‘Source confusion’ is the foundation of the trademark law and it comes into picture if there is a similarity of marks. And the next is the ‘Sponsorship confusion’ it arises when consumers believe that the original owner is behind certain goods which is not all true. And other confusions are related to before purchase (initial interest confusion) and after purchase (post purchase confusion).

b. **DOCTRINE OF INITIAL INTEREST CONFUSION:**

When the consumer is trying to purchase a certain product but he/she were being suggested a different similar product then a temporary confusion is dispelled before purchase of the product. Though this doctrine was born in 1970’s but it was first applied on the internet by the 9th circuit in *Brookfield Communications Inc. V West Coast Entertainment Corp. case* while addressing the issue related to the use of registered trademarks as ‘meta tags’ by the non-trademark holder.¹⁹

¹⁸Frank I. Schechter, The Rational Basis of Trademark Protection, 40 HARV. L. REV. 813 (1927)

¹⁹https://en.wikipedia.org/wiki/Initial_Interest_Confusion.

c. POST PURCHASE CONFUSION :

Consumers are confused when there is an alleged improper use of protected trademark on a lower-quality (non-genuine) product which diminishes the reputation of the holder of the rights of that mark.²⁰

The basic subject matter of post purchase confusion includes:²⁰

Competing products - where the parties differ on whether on "trade dress" (or the products) are very similar.

Counterfeits- where either the trademark or the trademarked product was copied and sold as authentic.

Reselling altered product - where one party was selling the original item but after altering it to make it into something more expensive or reselling it as refurbished and not attaching their company name.

Use of genuine product to make and sell something - post-sale confusion does not apply.

The above are the some of the factors where infringement can take place even after the purchase.

d. AVERAGE CONSUMER/AVERAGE INTERNET CONSUMER :

European Court of Justice, while deciding about the misleading of consumers through the commercial communication has applied the doctrine of the average consumer. It assumed that the average consumer is a "reasonably observant and reasonably well informed and circumspect".²¹ And the same can be applied to internet user as in *Google France*²² case, the court of appeal defined the 'average internet consumer' as " (In) the context of internet advertising, the average consumer (who is reasonably well informed and reasonably observant and circumspect) and reasonably well informed and reasonably circumspect internet user are one and the same."²³

The likelihood of confusion between similar marks of products and services in the market and violations of trademarks are assessed and viewed through the lens of the average consumer doctrine and hence it plays a critical role in the trademark law. The concept of the average consumer is important during the process of trademark registration and also in the process of assessing allegations for trademark infringement. Because of the inherent fallacies existing in the human nature the consumer is termed as the 'average' rather than 'perfect'.

²⁰GIBSON GUITAR CORP. v. PAUL REED SMITH GUITARS, LP U.S. Court of Appeals for the Sixth Circuit, September 12, 2005

<http://www.tabberone.com/Trademarks/TrademarkLaw/Confusion/PostSaleConfusion/Analysis.shtml>.

²¹*Gut Springenheide* gmbh and Rudolf Tusky v Oberkreisdirektor des Kreises Steinfurt - Amt für Lebensmittelüberwachung, Case C-210/96, ECR 1998 I-04657 : See also *Sabel BV v Puma AG Rudolf Dassler Sport* [1998] ECR I-6191

²²*Viaticum SA and Luteciel SARL (C-237/08) and Google France SARL v Centre national de recherche en relations humaines; (CNRRH) SARL and Others (C-238/08)*

²³*Google France SARL and Google Inc. v Louis Vuitton Malletier SA (C-236/08), Google France SARL v Interflora Inc and another v Marks and Spencer plc* [2014] EWCA Civ 1403

e. IMPERFECT RECOLLECTION :

Although, the average consumer is deemed to be a reasonably well informed and reasonably observant and circumspect, the fact is that average consumer get a rare chance to compare the similar marks and ultimately the consumer has to depend upon the imperfect picture he/she has stored in the mind. The average consumer is attracted to different aspects of the goods and services and certainly his attention depends and varies according to the category of the products and services.²⁴ Even the consumers with high level attention cannot recall the marks perfectly it has to be in the nature of imperfectness only.²⁵

f. VISUAL, PHONETIC AND CONCEPTUAL SIMILARITY :

The degree of confusion created by visual, phonetic and conceptual marks depends upon the category of goods and services and also includes the marketing strategy related to them.²⁶ Though it is presumed that the visual, aural and conceptual aspects are linked but it can only be decoded during the purchasing process. For example, if the products are visually examined, the assessment of likelihood of the confusion is particularly based on the visual impression of the signs rather than the aural or conceptual similarity. But care should be taken while dealing with the visual, aural and conceptual similarity and it should always be dealt on a case-by-case basis.

²⁴judgment of 22/06/1999, C-342/97, Lloyd Schuhfabrik, EU:C:1999:323, § 26

²⁵judgment of 21/11/2013, T-443/12, ancotel, EU:T:2013:605, § 54

²⁶Supra note 24, at § 27

V. TRADEMARK LAW AND ARTIFICIAL INTELLIGENCE DICHOTOMY:

From the beginning onwards trademark law strived to eliminate the confusion and protect the original marks. During this process the consumers develop an emotional bond with the brands and they literally interact with each other. But what if the emotional bond is broken and replaced by an artificial bond? It is true that the human choices are being replaced by the technology choices. In the present generation it is the technology which determines the public choices. In this context it is the artificial intelligence technology which has replaced the common or average consumer. Once the average consumer is replaced by the artificial consumer then the basic aspects of the trademark law are bound to hit. It was thought that the replacement will take time but it was already here. Some of the examples include:

Starting with the simple Amazon website²⁷, as discussed from the above majority of young generation are preferring online purchasing and that too through the Amazon website. The uniqueness of this website is it suggests or recommends the products based on the browsing history as well as the purchase history of the consumer. It can be termed as a modern shop assistant. But how does it work? And the simple answer is AI system in the website analyses the data and based on certain criteria it suggests the products. And here comes the question are the products suggested based on the brands or other criteria like price and speed of delivery? What if the website suggests the counterfeit can it be termed as a secondary infringer?

Before dealing with the above questions let us see the other amazing product from the Amazon's Echo known as 'Alexa'.²⁸ It is another type of AI product run by the voice recognition software program. Similar products include Apple's 'Siri',²⁹ 'Watson'³⁰ IBM's prestigious AI system and also various Google home devices. All the above products interact with the humans naturally. And these products are advanced to understand the human emotions and cultural aspects. And the recent release of the 'Pepper'³¹ the robot behaves more humanly, it understands the human moods and needs and act accordingly. And the common aspect among the above is the artificial intelligence. Alexa not only interacts but has the capability to automatically order the products based on the market trends and brand information. Can the doctrine of average consumer be applicable to the Alexa. Is there any

possibility for the Alexa to be confused. So on what basis the Alexa is suggesting the brands? What if only few brands are inserted into the AI system keeping the other brands? (Unfair trade practices- altogether a different issue).

Similar questions are asked even related Amazon's product known as Amazon Dash which is also powered by the AI system and it provides the replenishment service. In this case Dash automatically re-orders the consumable items which are running out of the home or office.

The other form of AI present in the market are known as, Bots. These are critical in online trading or customer service. Bots like eBay shop bots or Mona, shopping app bots identifies the customer preferences and suggests the products based on price, location and style etc.

²⁷<https://www.amazon.in>

²⁸<https://developer.amazon.com/alexa-skills-kit/conversational-ai>.

²⁹<https://www.theguardian.com/technology/2018/apr/04/apple-siri-google-ai-chief-john-giannandrea>.

³⁰<https://www.ibm.com/watson/>.

³¹<https://www.softbankrobotics.com/emea/en/robots/pepper>.

The above examples depict the perfect picture of how the AI is rapidly replacing the natural consumer. It is clear that the retail shopping is shifting by being reactive to predictive and almost removing the humans from the purchasing process.³² So how will the basic tenants of the trademark law reacts with the new artificial consumer? It is known that trademark law was emerged to fill the inherent human ‘faults’ but do AI have such faults? AI is challenging the concept of ‘average consumer’ with its perfect recollection.

Similarly is there any possibility of AI for likelihood of confusion? If so Alexa would fail to provide the predictive suggestions but the truth is AI is capable of analyzing the data by recollecting it perfectly which avoids any confusion between the brands. But the question arises is what type of data related to brands are incorporated into the AI? Can AI as consumer think like a human and sense the brands value, quality, intensity and emotions related to the products and services?³³ And other important question arises is what if AI recommends or suggests and purchases the counterfeits can it be termed as a second infringer?³⁴

At present AI mostly suggesting the products based on the price and speed of delivery which is causing huge damage to brands and consumers. Until the trademark law which is already grappling to deal with new issues related to AI, answers the above questions the marks or brands are not free from the infringement.

³²Lee Curtis, Rachel Platts of HGF “AI is coming and it will change trade mark law.” See <http://www.hgf.com/media/1173564/09-13-AI.PDF>.

³³ibid.

³⁴ibid.

VI. ARTIFICIAL INTELLIGENCE AND TRADEMARK LAW ADOPTATION

Till date, there is only one proper case regarding the interaction between AI and trademarks. In the case of Lush V Amazon, the court has reprimanded the Amazon for infringing upon the Lush trademarks. Amazon brought the keyword 'Lush' from the google through bidding process. And when the word "Lush' is searched on the google search engine, google redirects the link of the amazon website based on the key word. Even if the 'Lush' word is searched on the Amazon's website, the AI of the website is suggesting the similar products rather the 'Lush' products. Though there are no sale of 'Lush' products on the website but AI product system is suggesting the similar products based on the keyword search on the website which is clear indication of infringement. And court held that Amazon is liable for the infringement.³⁵

And this situation is fearful because few AI based E-commerce platforms are manipulating the brands. And such litigations are bound to rise once AI becomes a consumer. Only time will tell how the courts are going to assess the issues related to AI and concepts like 'average consumer' and 'likelihood of confusion'. It is proved that technological changes has forced the courts globally to come with new concepts, ideas and interpretations of the trademark law. And such interpretations of courts resulted in basic tenants of the trademark law and most importantly while interpreting the courts have taken the consumer as a reference point. And in future the courts will be forced to take the artificial consumer as a reference point and interpret the algorithms of the AI system. And at present this appears to be only possible way out.

VII. CONCLUSION:

Presently the retailing process is rapidly shifting from "shopping-then-shipping" to "shipping-then-shopping".³⁶ In this model products are shipped even before the consumers demanded for products. And this only possible with AI which is fundamentally a predictive technology. And AI based E-commerce platforms and AI based products like Alexa predicts the products for the consumers based on their preferences on which consumer related data is collected by AI from searching and purchasing behaviour on the website, social media data, as well as offline information, and if requires AI automatically orders the products. The success of

the trademark law depends upon the assessment and proper interpretation of the Artificial Intelligence. Though AI may pose challenges to the trademark law but the foundations of the trademark are so strong and cannot shaken so easily as long as there is an emotional chord between the consumers and brands.

³⁵Cosmetic Warriors and Lush v Amazon.co.uk and Amazon EU ([2014] EWHC 181 (Ch))

³⁶Ajay Agrawal, Joshua Gans and Avi Goldfarb; Prediction Machines: The Simple Economics of Artificial Intelligence – April 17, 2018

