NAVIGATING THE ALGORITHMIC MARKETPLACE: REASSESSING TRADEMARK LAW IN THE AGE OF THE ARTIFICIALLY INTELLIGENT CONSUMER

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ABSTRACT

AI-driven processes dominate today's consumer interactions. The integration of sophisticated AI technologies into search and e-commerce platforms has transformed the marketplace, posing novel challenges for trademark law. The modern 'algorithmic marketplace' departs from the reactive and human-centric consumption models upon which trademark jurisprudence is based. The predictive nature of emerging technologies, coupled with the growing use of innovative AI-driven search methods—such as conversational, voice-activated, visual, and multimodal search—has drastically altered the informational contexts that consumers operate in. Moreover, human involvement in purchasing decisions is increasingly being supplanted by autonomous AI intermediaries (such as smart shopping assistants, appliances, and replenishment services), which independently assess need, navigate marketplaces, weigh options, and execute purchases—replicating decision-making traditionally attributed to human shoppers. Given the reduced human involvement in and control over transactions in the algorithmic marketplace, trademark law's archetypal 'average consumer' must be adapted when applied to the 'artificially intelligent' consumer—those whose consumption patterns are heavily influenced or entirely facilitated by AI agents. This Article explores these challenges and proposes amendments to the Lanham Act that address the impact of the artificially intelligent consumer on traditional trademark law principles.

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INTRODUCTION

The ever-evolving landscape of e-commerce has historically been an impactful driver of change in trademark law.[1] The migration of commercial activities to the digital realm in the 1990s[2] radically shifted the way consumers interact with products and, as a result, trademark law.[3] Despite early concern about whether trademark law could function

1. *See* Michael L. Rustad & Diane D'Angelo, *The Path of Internet Law: An Annotated Guide to Legal Landmark*, 12 DUKE L. & TECH. REV. 1, 18–46 (2011).

2. By 1999 "e-commerce websites dominated the top fifteen websites . . . in comparison to zero in 1996." David Yan, *Virtual Reality: Can We Ride Trademark Law to Surf Cyberspace?*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 773, 776 (2000). By 2022, 4.11 billion people shopped online, an 8.3% increase from just a year earlier. Adam Heitzman, *30+ SEO and Website Conversion Stats: Why SEO Leads to More Sales on Your Site*, HIGHERVISIBILITY (Apr. 11, 2023), https://www.highervisibility.com/seo/learn/seo-website-conversion-stats/.

3. *See* Dan L. Burk, *Trademark Doctrines for Global Electronic Commerce*, 49 S.C. L. REV. 695, 696 (1998) ("A close connection between trademark law and the growth of [e-commerce] already has become apparent . . . [in] 'cyberlaw.'"). Trademark litigation spiked in the late 1990s in response to the distinct challenges posed by the emergence of the internet stemming from the complexities surrounding online branding, domain name disputes, the global nature of the web, and the infringement of intellectual property rights within the digital realm. *See id.* at 696–98, 696 n.1.

in the cyber "Wild West,"[4] it is now well-settled that the Lanham Act ("the Act") reaches the contents of your computer screen.[5]

While some aspects of trademark law have had straightforward application to internet-based disputes,[6] the burgeoning integration of sophisticated artificial intelligence ("AI") algorithms to e-commerce platforms has fostered a second and perhaps more disruptive Wild West.[7] In a traditional brick-and-mortar setting—the model upon which trademark law was originally built[8]—consumers engage with products firsthand, making unfiltered purchasing decisions based on tangible factors of the product itself, its immediate availability, and information gained through past use, previously seen ads, or word of mouth.[9] The early web-consumer remained in control over their purchasing decisions with minimal interceding influence between consumers and available products.[10]

Today, however, e-commerce and search platforms are increasingly driven by AI algorithms,[11] which function as highly sophisticated filters

4. *See, e.g.*, Jeffrey J. Look, *The Virtual Wild, Wild West (WWW): Intellectual Property Issues in Cyberspace—Trademarks, Service Marks, Copyrights, and Domain Names*, 22 U. ARK. LITTLE ROCK L. REV. 49, 49–50 (1999); Panavision Int'l v. Toeppen, 141 F.3d 1316, 1326 (9th Cir. 1998) (citing 141 CONG. REC. § 19312-01 (daily ed. Dec. 29, 1995) (statement of Sen. Leahy) (discussing congressional concern about trademark dilution on the internet)). *Contra* Burk, *supra* note 3, at 697 (arguing that "the sky is not falling" as "[c]urrent law can be . . . applied to" e-commerce and, "[f]or the most part," "can be fairly readily adapted").

5. *See* Cardservice Int'l, Inc. v. McGee, 950 F. Supp. 737, 741 (E.D. Va. 1997) ("The terms of the Lanham Act do not . . . preclude application . . . to the internet.").

6. For example, in cases disputing the use of a trademark in a third party's website domain name, the Ninth Circuit applies a version of trademark law's likelihood of confusion standard in its "internet trinity" of factors: "(1) the similarity of the marks, (2) the relatedness of the goods or services, and (3) the parties' simultaneous use of the Web as a marketing channel." 2 Anne Gilson LaLonde, *Gilson on Trademarks* § 7A.01 (Matthew Bender ed., 2025). "The practice of 'spamming,' or sending junk e-mail, under another party's trademark" has been successfully litigated under trademark concepts of "false designation of origin and dilution by tarnishment." *Id.*

7. *See* Kalyan Revalla, *Intelligent Trademarks: Is Artificial Intelligence Colliding with Trademark Law?*, 8 IUP L. REV. 13, 15 (2018) (stating that changes to the purchasing process in previous decades were not drastic, but that the emergence of "disruptive" technologies like AI are "sure to impact the conventional law").

8. Lee Curtis & Rachel Platts, *Trademark Law Playing Catch-up with Artificial Intelligence?*, WIPO MAG. (June 30, 2020), https://www.wipo.int/wipo_magazine_digital/en/2020/article_0001.html.

9. *See infra* Part II discussing how this compares to the current predictive retail model, which relies on the anticipation and filtration of information.

10. Curtis & Platts, *supra* note 8.

11. *See infra* notes 131–35 and accompanying text.

between consumers and products sought on the online marketplace.[12] Product options presented to consumers through search engine optimization ("SEO"), chatbots, voice assistants, and smart devices are determined, ranked, and *delimited* by powerful AI algorithms.[13] What's more, human involvement in the purchase process can now be bypassed altogether through smart shopping assistants, replenishment services, and other AI intermediaries that autonomously navigate marketplaces, evaluate options, and make purchases—effectively replicating commercial decision-making traditionally reserved for human shoppers.[14] In these contexts, it is the AI—not the human consumer—that interacts with trademarks and other commercial cues.

AI has emerged as a powerful determinant in purchasing experiences and decision-making—dictating how consumers discover, access, and weigh purchase options. The algorithmic marketplace has blurred traditional boundaries and transformed the act of making purchases into one that is inherently AI-directed—such that the modern consumer and AI are, in effect, one in the same. This transformation has radically reshaped brand interactions, consumer behavior, and marketplace mechanisms upon which trademark law is grounded.[15] Moreover, the hidden algorithmic use of trademarks by competitors to manipulate product search results and influence consumer choices raises profound implications for infringement, false affiliation, and dilution claims.[16] Yet, despite the rapid pace of AI advancement and its increasingly central role in modern commerce,[17] the core tenets of trademark law remain static.[18]

12. *See id.*; Lee Curtis, *Will Artificial Intelligence Become the Gatekeeper of Trade Mark Law?*, 43 EUR. INTELL. PROP. REV. 1, 3 (2021) ("[AI acts as a] new 'gatekeeper' in the application of trade mark law.").

13. *See infra* Part III discussing search engine optimization practices.

14. *See infra* Part IV discussing the capabilities of these AI technologies.

15. *See* Varsha Jain, *How AI is Transforming Consumer Behaviour*, LINKEDIN (Sept. 1, 2023), https://www.linkedin.com/pulse/how-ai-transforming-consumer-behaviour-prof-varsha-jain/; Michael Grynberg, *AI and the "Death of Trademark,"* 108 KY. L.J. 199, 238 (2019) ("Many recent battles concerned the internet, and future technological developments will naturally continue to test trademark law.").

16. *See infra* Part III discussing competitors purchasing each other's keywords. Infringement is the unauthorized use of a trademark or a substantially similar mark in a way that is likely to cause confusion, deception, or mistake about the source of goods or services. 15 U.S.C. § 1114. Dilution involves unauthorized use of a famous trademark in a manner that diminishes the distinctiveness or reputation of the mark. 15 U.S.C. § 1125(c). False affiliation refers to unauthorized use of a mark that creates a misleading impression of a connection, sponsorship, or endorsement between user and owner that does not exist. 15 U.S.C. § 1125(a).

17. *See infra* Part IV.

18. Curtis & Platts, *supra* note 8.

This Article problematizes the 'artificially intelligent' consumer—those whose consumption patterns are heavily influenced or entirely facilitated by AI agents—and critically examines the adequacy of traditional trademark standards in this context. Trademark law is rooted in the expected behavior and perceptions of a typical, reasonable consumer and their resulting impressions about the goods and services they encounter—concepts that play a critical role in assessing the distinctiveness of a mark and consumers' potential for confusion.[19] How then should these human-perception-based standards apply when the consumer (and the information and options available to her) is bridled by significant AI interference—or when AI itself executes the purchase? Traditional trademark doctrines such as likelihood of confusion, imperfect recollection, consumer sophistication, visual, aural and conceptual similarity between marks, may diminish in relevance or require significant reinterpretation[20] when applied to the artificially intelligent consumer.

To address this gap, this Article proposes an amendment to the Lanham Act[21] that better accounts for scenarios in which:

1. Consumers rely predominantly on AI-generated or AI-curated information,
2. AI autonomously executes purchases, and/or
3. Third parties subvert algorithmic reasoning to divert consumers through hidden trademark use.

U.S. courts have yet to confront the novel dilemmas posed by the contemporary artificially intelligent consumer. However, as predictive retail and autonomous AI technologies advance, trademark law will be forced to "[p]lay[] [c]atch-up."[22] While the European Union's recent Artificial Intelligence Act ("EU Artificial Intelligence Act")[23] does not

19. *See* 15 U.S.C. 1125; *infra* notes 41–43 and accompanying text discussing the purpose of a trademark and service mark as a consumer protection mechanism that signals to potential purchasers the source, quality, or price of a given product.

20. *Compare* the case law discussed in Part III, *with* the emerging AI purchase mechanisms described in Part IV. Given the proliferation of AI, "some of the historic concepts and principles of trade mark law [may] simply no longer apply, or . . . will have to be interpreted differently to reflect the new retail reality." LEE CURTIS & RACHEL PLATTS, AI IS COMING AND IT WILL CHANGE TRADE MARK LAW 13 (Managing IP 2017).

21. *See infra* Appendix; *infra* Part V.

22. Curtis & Platts, *supra* note 8.

23. *See generally* Commission Regulation 2024/1689 of June 13, 2024, Laying Down Harmonised Rules on Artificial Intelligence and Amending Regulations (EC) No. 300/2008, (EU) No. 167/2013, (EU) No. 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828, 2024 O.J. (*L 1689)* ,

directly address trademark law, it recognizes that AI poses distinct challenges unlike those that emerged with previous technologies.[24] Unlike traditional software, AI systems are defined by their ability to infer—generating predictions, recommendations, and decisions that shape both physical and virtual environments.[25] This evolution underscores the need for legal frameworks that account for AI's autonomous nature and its integral role in consumer decision-making, rather than relying on outdated models developed for earlier technological shifts.[26] Intellectual property ("IP") practitioners have likewise expressed concern that "existing liability regimes" and "planned legal reforms" pertaining to AI "insufficiently address" trademark infringement.[27] Similarly, the American Intellectual Property Law Association ("AIPLA") has urged the United States Patent and Trademark Office ("USPTO") to provide guidance on the potential trademark implications of AI, cautioning that "AI algorithms and processes [may be] biased against certain product selections" or contribute to the dilution—through blurring, whittling away, or tarnishment—of well-known marks.[28] The need for statutory clarity is evident.

Nevertheless, recent legal discourse and jurisprudence has had a single-minded focus on AI's impact on copyright and patent law, particularly concerning the protectability and ownership of AI-generated works and inventions.[29] Despite AI's ubiquitous integration into e-

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689 [hereinafter EU Artificial Intelligence Act].

24. *See id.* recital 12, https://artificialintelligenceact.eu/recital/12/ (emphasizing the "key characteristics of Al systems that *distinguish* it from simpler traditional software systems or programming approaches") (emphasis added). The EU Artificial Intelligence Act also classifies the potential threat posed by AI systems to intellectual property rights as "high risk." *Id.* recital 48, https://artificialintelligenceact.eu/recital/48/.

25. *See id.* recital 12, https://artificialintelligenceact.eu/recital/12/ ("*A key characteristic of Al systems is their capability to infer*. This capability to infer refers to the process of obtaining the outputs, such as predictions, content, recommendations, or decisions, *which can influence physical and virtual environments* . . .") (emphasis added).

26. *See* Gabriele Engels, *Liability for Trademark Infringement Involving Artificial Intelligence*, *in* THE TRADEMARK LAWYER: A GENERATION OF COUNTERFEIT CONSUMERS 1, 18 (2022).

27. *Id.* at 19.

28. Letter from Barbara A. Fiacco, President, Am. Intell. Prop. L. Ass'n, to Andrei Iancu, Sec'y of Commerce for Intell. Prop., U.S. Pat. and Trademark Off., 8 (Jan. 10, 2020) [hereinafter AIPLA Comments].

29. *See, e.g.*, Thaler v. Vidal, 43 F.4th 1207, 1213 (Fed. Cir. 2022) (holding AI cannot be considered an inventor for patent purposes); Complaint at 1, Getty Images (US), Inc. v. Stability AI, Inc., No. 1:23CV00135 (Dist. Ct. Del. Feb. 3, 2023) (alleging defendant infringed on plaintiff's copyrights by using its photo library to train AI-powered image generation technology); Keegan Caldwell, *AI and Intellectual Property: Who Owns It, and*

commerce and the online search market,[30] considerably less attention is being paid to the issues raised by AI systems in the domain of trademark law. This Article begins to remedy this gap by addressing emerging issues concerning AI governance that will arise in future trademark jurisprudence and recommending a statutory path forward.[31]

This Article proceeds as follows. Part I examines trademark law's conceptual focus on the 'average consumer' and how it figures into courts' analyses of infringement, dilution, and false affiliation claims. Part II draws insights from early hidden trademark use jurisprudence (keyword advertising) to anticipate how courts might approach algorithmic trademark use. Part IV identifies the challenges that specific, emerging AI technologies pose to trademark law. Part V proposes an amendment to the Lanham Act to help address issues posed by the artificially intelligent consumer. Part VI explores the viability of initial interest doctrine as a possible framework for assessing AI-driven consumer confusion. Part VII draws on recent international case law to explore the potential liability of AI advertisers and platforms for trademark infringement in cases where AI-driven systems, such as AI-generated product recommendations and ads, either promote infringing products or infringe on trademarks themselves.

The trajectory of case law in related areas suggests that traditional trademark analyses may prove inadequate[32] for addressing the intricacies of trademarks' operation and employment in AI processes. Rather than maintain quixotic reliance on traditional applications of trademark doctrine, this Article presents a functional approach tailored to the algorithmic marketplace that focuses on the operation and influence of (1) marks within AI algorithms and (2) AI itself in the modern purchase process. This Article further argues that confusing, misleading, or deceptive trademark use[33] should not be confined—as some courts have held[34]—to instances where a third party's use is visible to consumers, a constraint that becomes particularly relevant in the context of the artificially intelligent consumer. As the circuit split on

What Does This Mean for the Future?, FORBES (Oct. 13, 2023), https://www.forbes.com/sites/forbesbusinesscouncil/2023/10/31/ai-and-intellectual-property-who-owns-it-and-what-does-this-mean-for-the-future/?sh=7b4767083e96 (discussing the challenges in determining who owns copyrights and patent for AI-generated works and innovations).

30. *See infra* Part III discussing keyword search advertising.

31. *See* Engels, *supra* note 26 and accompanying text.

32. *See infra* Parts III, V; *see also* Grynberg, *supra* note 15.

33. 15 U.S.C. § 1125(a)(1)(A).

34. *See, e.g.*, 1-800 Contacts v. WhenU.com, Inc., 414 F.3d 400, 409 (2d Cir. 2005) (analogizing defendant's hidden use of the subject trademark to "a [sic] individual's private thoughts.").

keyword advertising illustrates,[35] under certain conditions it is plausible that the internal algorithmic use of a mark to manipulate the product offerings tendered in search results, recommendations, and ads to influence consumer choices could rise to a level of actionable interference, despite being "hidden" to consumers.

Lastly, it bears acknowledgment that states have their own trademark laws and protection mechanisms separate from the federal Lanham regime to further safeguard IP within their jurisdictions.[36] Use of AI in e-commerce implicates interstate commerce (and thus invokes federal law) because of the nature of the results produced by AI.[37] However, considering that nearly half of all Google® searches are for local information,[38] understanding how AI affects state trademark protection is an area ripe for further inquiry. While the scope of this Article does not encompass state-specific issues, the topic merits exploration in future scholarship.

I. THE CONSUMER AS THE GUIDEPOST OF TRADEMARK LAW

The Lanham Act defines a trademark as "any word, name, symbol, or device, or any combination thereof . . . used by a person . . . to identify and distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of the goods . . . ."[39] Courts have interpreted this to include trade dress, the "non-

35. *See infra* Part III. Courts have disagreed on whether and when purchasing a competitor's trademark as a keyword for online advertising constitutes actionable infringement. *See* Patrick R. Barry, *The Lanham Act's Applicability to the Internet and Keyword Advertising: Likelihood of Confusion v. Initial Interest Confusion*, 47 DUQ. L. REV. 355, 360–69 (2009).The key points of contention include: 1) Is the use of a trademark as a keyword a "use in commerce" under the Lanham Act? 2) Does keyword advertising create a likelihood of consumer confusion? *See id.*

36. 1 Anne Gilson LaLonde, *Gilson on Trademarks* § 1.04 (Matthew Bender ed., 2024) ("Trademark protection in the United States is based on federal and state statutory law as well as common law."). *See generally* John T. Cross, *The Role of the States in United States Trademark Law*, 49 U. LOUISVILLE L. REV. 485 (2010).

37. *See* Nat'l Fed'n of Indep. Bus. v. Sebelius, 567 U.S. 519, 536 (2012) (quoting United States v. Morrison, 529 U.S. 598, 609 (2000) ("Congress may regulate 'the channels of interstate commerce[]' . . . and 'those activities that substantially affect interstate commerce.'")).

38. Adam Heitzman, *47 Conversion Rate Optimization Statistics That You Need to Know in 2024*, HIGHERVISIBILITY (Dec. 1, 2023), https://www.highervisibility.com/website-design/learn/conversion-rate-optimization-statistics/. AI-based search technologies reflect the same trend. For example, "near me" and other local searches account for seventy-six percent of voice-based searches. Dhana Suryaa, *80+ Industry Specific Voice Search Statistics for 2025*, SYNUP (Jan. 4, 2025), https://www.synup.com/en/voice-search-statistics.

39. 15 U.S.C. § 1127. In addition to trademarks, the Lanham Act also regulates other categories of marks. Service marks, as distinct from trademarks, designate marks

functional physical detail and design of a product or its packaging which identifies the source of the product and distinguishes it from other products."[40] The combination of these features help consumers to identify the source of a product in the marketplace and distinguish brands from competitors.[41]

A trademark's pecuniary value stems from its function as a "merchandising short-cut,"[42] which serves as "a shorthand designation of a brand" with the ability to "convey[] information that allows the consumer" to purchase a product with the expectation that its attributes and qualities will be the same as a "like-branded product . . . enjoyed earlier."[43] This public perception of a trademark's association with a certain business or source is referred to as its "good will."[44] The good will evoked by a trademark has the ability to "induce[] a purchaser to select [a product or service] he wants, or what he has been led to *believe* he wants."[45] The lofty power held by a trademark and its intimate ties to human psychology are described in one foundational case as follows:

> The owner of a mark exploits this human propensity by making every effort to impregnate the atmosphere of the market with the . . . power of a congenial symbol. . . . [T]he aim is . . . to convey

specifically associated with *services* rather than goods. *Id.* Collective marks represent marks used by members of a collective group to indicate a common origin or quality standard. *Id.* Certification marks denote marks used to certify the characteristics or quality of goods or services (*e.g.*, USDA ORGANIC® or ENERGY STAR®). *Id.*; *see also Certification Mark Applications*, USPTO, https://www.uspto.gov/trademarks/apply/certification-mark-applications (last visited Apr. 13, 2025).

40. 3 BUS. TORTS § 28.10[1] (2023). Trade dress can include the "size, shape, color or color combinations, texture, graphics, or even particular sales techniques." *Id.* A design is deemed "functional . . . and thus unprotectible [sic], if it is one of a limited number of equally efficient options available to competitors and free competition would be unduly hindered by according the design trademark protection." Two Pesos, Inc. v. Taco Cabana, Inc., 505 U.S. 763, 775 (1992).

41. *See* Mathias Strasser, *The Rational Basis of Trademark Protection Revisited: Putting the Dilution Doctrine into Context*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 375, 379–91 (2011) (discussing marks' "identifying" and "communication" functions); Top Tobacco, L.P. v. North Atlantic Operating Co., 509 F.3d 380, 381 (7th Cir. 2007) ("Trademarks are designed to inform potential buyers who makes the goods on sale.").

42. Mishawaka Rubber & Woolen Mfg. Co. v. S. S. Kresge, 316 U.S. 203, 205 (1942).

43. *In re* XMH Corp., 647 F.3d 690, 695–96 (7th Cir. 2011). "The purpose of a trademark . . . is to identify a good or service to the consumer, and identity implies consistency and a correlative duty to make sure that the good or service really is of consistent quality . . . ." *Id.* at 695 (quoting Gorenstein Enterprises, Inc. v. Quality Care-USA, Inc., 874 F.2d 431, 435 (7th Cir. 1989)).

44. La Preferida, Inc. v. Cerveceria Modelo, S.A., Nos. 86 C 2647, 87 C 4081, 1989 U.S. Dist. LEXIS 5173, at *6 (N.D. Ill. May 5, 1989).

45. *Mishawaka Rubber*, 316 U.S. at 205 (emphasis added).

> through the mark . . . the desirability of the commodity upon which it appears.[46]

The Lanham Act is designed to protect both purveyors of goods and services and the purchasing public.[47] Trademark doctrine functions in part as a subset of unfair competition law.[48] To this end, trademarks are rationalized by the need for legal recognition of a mark owner's time and effort spent in building its brand.[49] This serves the dual economic purpose of (1) protecting a brand's investments and preventing others from profiting off of the senior trademark owner's earned good will and (2) incentivizing brands to invest in the quality and thus desirability of their products.[50] For these reasons, courts grant relief to trademark owners on the ground that they have "a valuable interest in the good-will of [their] business, and in the trade-marks adopted to maintain and extend it."[51] Trademark law also serves consumer protection purposes by seeking to safeguard "the public from confusion and deception" about a product's source, by preventing false and misleading advertising.[52] A trademark's

46. *Id.* at 205.

47. *See* Reddi Bev. Co. LLC. v. Floral Bevs., LLC, No. 1:23-cv-06147, 2023 U.S. Dist. LEXIS 227494, at *7 (N.D. Ill. Dec. 21, 2023) (quoting Grubhub Inc., v. Relish Labs LLC, 80 F. 4th 835, 844 (7th Cir. 2023)) ("The purpose of trademark law is twofold: to protect consumers by ensuring they can be confident in making purchasing decisions based on marks they know and trust and to protect 'trademark owners who have spent time, energy and resources in presenting a product or service, ensuring that those investments are protected from misappropriation . . . .'"); *cf.* Mark P. McKenna, *The Normative Foundations of Trademark Law*, 82 NOTRE DAME L. REV. 1839, 1840–41 (2007) (arguing that modern trademark law has greatly expanded the scope of the consumer protection role).

48. *See, e.g.*, 15 U.S.C. § 1125(a); *see also* Mana Prods. v. Columbia Cosm. Mfg., 65 F.3d 1063, 1068 (2d Cir. 1995) (citing Park 'N Fly, Inc. v. Dollar Park and Fly, Inc. 469 U.S. 189, 198 (1985)) ("[P]rotecting trademarks fosters fair competition, assures that consistent quality of trademarked goods may be maintained over time, and secures to trademark owners their reputation and goodwill."); United Drug Co. v. Theodore Rectanus Co., 248 U.S. 90, 97 (1918) ("[A mark's] function is simply to designate . . . the product of a particular trader and to protect his good will against the sale of another's product as his . . . .").

49. *Mana Prods.*, 65 F.3d at 1068; Mark Bartholomew, *Advertising and the Transformation of Trademark Law*, 38 N.M. L. REV. 1, 1 (2008).

50. *See Park 'N Fly, Inc.*, 469 U.S. at 198 ("[T]rademarks foster competition and the maintenance of quality by securing to the [product's] producer the benefits of [their] good reputation."). If conflicting uses of trademarks were allowed, "producers would have little incentive to invest in their products as competitors could siphon off business goodwill." Bartholomew, *supra* note 49, at 1. Good will is conceptualized as a valuable property right of commodity producers that can be "creat[ed] or enlarge[d]" by distinctive trademarks. Old Dearborn Distrib. Co. v. Seagram-Distillers Corp., 299 U.S. 183, 189–90 (1936).

51. Hanover Star Milling Co. v. Metcalf, 240 U.S. 403, 412 (1916).

52. Gilson LaLonde, *supra* note 36, at § 1.03(1); *see also* 15 U.S.C. § 1114; *Mana Prods.*, 65 F.3d at 1068 ("It was the legislature's aim to ensure that when consumers purchase a product they like [bearing] a familiar trademark, they may be confident the product they ask for is the one they will get.").

"specialized mission" is to aid consumers in identifying products and services from sources they desire, while avoiding those they do not.[53] This role is important because "[k]nowledge of [a product's] origin may convey information about [its] . . . attributes and quality"[54] to potential purchasers.

Irrespective of the policy rationale invoked, trademark law is guided in predominant part by the concept of the "average consumer"—a legal construct used in trademark law to represent the typical consumer's perception of a product or service.[55] The average consumer is the "yardstick" by which the meaning of a trademark is measured.[56] For example, in assessing whether a trademark fails for "descriptiveness," courts have held that "the true test is one of *consumer perception*—how is [the term] perceived by the average prospective consumer?"[57] Similarly, to establish a trademark infringement claim under the Act, a senior mark owner must show that a third party's use of its trademark is likely to cause confusion among average consumers.[58] The "core inquiry" when assessing likelihood of confusion is "whether the relevant average consumers for a product or service are likely to be confused as to the

53. Iancu v. Brunetti, 139 S. Ct. 2294, 2306 (2019); *see also* 15 U.S.C. § 1127 ("[A trademark's purpose is] to identify and distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of the goods . . . .").

54. Top Tobacco, L.P. v. N. Atl. Operating Co., 509 F.3d 380, 381 (7th Cir. 2007).

55. *See* Sands, Taylor & Wood Co. v. Quaker Oats Co., 978 F.2d 947, 952–53 (7th Cir. 1992) (quoting G. Heileman Brewing Co. v. Anheuser-Busch, Inc., 873 F.2d 985, 994 (7th Cir. 1989)).

56. Laura A. Heymann, *The Reasonable Person in Trademark Law*, 52 ST. LOUIS U. L.J. 781, 781 (2008); *see also* Graeme W. Austin, *Trademarks and the Burdened Imagination*, 69 BROOK. L. REV. 827, 835 (2004) ("[T]he worldview of the ordinarily prudent consumer is frequently based upon judicial assumptions.").

57. *G. Heileman Brewing Co.*, 873 F.2d at 994 (emphasis added).

58. 15 U.S.C § 1114(1); WSM, Inc. v. Hilton, 545 F. Supp. 1212, 1216 (W.D. Mo. 1982) ("The test of infringement under Section 1114(1) requires a showing that confusion, mistake or deception is 'likely' to occur in the minds of the public."); Multi Time Mach., Inc. v. Amazon.com, Inc., 804 F.3d 930, 935 (9th Cir. 2015). Courts commonly employ versions of the *Sleekcraft* test when assessing likelihood of confusion. AMF, Inc. v. Sleekcraft Boats, 599 F.2d 341, 348–49 (9th Cir. 1979). Factors include:

> (1) the similarity of the marks; (2) the strength of the plaintiff's mark; (3) the proximity or relatedness of the goods or services; (4) the defendant's intent in selecting the mark; (5) evidence of actual confusion; (6) the marketing channels used; (7) the likelihood of expansion into other markets; and (8) the degree of care likely to be exercised by purchasers of the defendant's product.

Fortune Dynamic, Inc. v. Victoria's Secret Stores Brand Mgmt., Inc., 618 F.3d 1025, 1030 (9th Cir. 2010).

source of a product or service or as to an affiliation between sources based on a defendant's use."[59]

Uniquely, trademark law requires courts to analyze claims through the consumer's perspective, urging them to "see the marketplace . . . as the *consumer* sees it."[60] This consumer-centric approach makes consumer surveys a critical tool in a variety of trademark actions as they provide empirical evidence that helps illuminate the nuanced perceptions and associations consumers have with specific trademarks.[61] The Lanham Act's traditional focus on the consumer perception was reiterated in the reasoning of a recent Supreme Court decision, which, like countless trademark cases, relied primarily on consumer survey evidence to ascertain whether the subject mark was inherently distinctive, and thus registrable, by considering purchasers' potential likelihood of confusion.[62]

The likelihood of consumer confusion standard hinges on consumer's commercial impressions of the marks and products they encounter and assesses whether there is a probability that consumers will be confused or deceived about the source, affiliation, or endorsement of a product or service due to similarities in branding, packaging, advertising, and overall presentation of the good or service.[63] In evaluating likelihood of confusion, courts consider the phonetic, visual, conceptual, and aural similarities between the subject marks.[64] Importantly, these standards

59. Select Comfort Corp. v. Baxter, 996 F.3d 925, 933 (8th Cir. 2021); 15 U.S.C. § 1125(a); *see also* E.I. DuPont de Nemours & Co. v. Yoshida Int'l, Inc., 393 F. Supp. 502, 510 (E.D.N.Y. 1975) ("In weighing the evidence of likelihood of confusion, the court must strive to place itself in the shoes of a prospective purchaser. In this role, the court does not act as an enlightened educator of the public but takes into account the mythical ordinary prospective purchaser's capacity to discriminate [and] propensity for carelessness.").

60. Barton Beebe, *Search and Persuasion in Trademark Law*, 103 MICH. L. REV. 2020, 2022 (2005) (emphasis added).

61. *See* United States Pat. & Trademark Off. v. Booking.com B.V., 591 U.S. 549, 549–50, 560–64 (2020). "Evidence . . . can include not only consumer surveys, but also dictionaries, usage by consumers and competitors, and *any other source of evidence bearing on how consumers perceive a term's meaning*." *Id.* at 561 n.6 (emphasis added); *see also* 15 U.S.C. § 1125(a).

62. *See United States Pat. & Trademark Off.*, 591 U.S. at 561 n.6. It will have to be determined in future case law how AI intermediaries' impressions of allegedly misleading, confusing, or deceptive use will be measured.

63. *See* G. Heileman Brewing Co. v. Anheuser-Busch, Inc., 873 F.2d 985, 994 (7th Cir. 1989).

64. *See* 15 U.S.C. § 1125(a); U.S. Pat. & Trademark Off., *Likelihood of Confusion*, USPTO, https://www.uspto.gov/trademarks/search/likelihood-confusion (last visited Apr. 13, 2025 ("Trademarks don't have to be identical to be confusingly similar. Instead, they could just be similar in sound, appearance, or meaning, or could create a similar commercial impression."); *see also, e.g.*, Pom Wonderful LLC v. Hubbard, 775 F.3d 1118, 1130 (9th Cir. 2014) ("[V]isual, aural, and semantic similarities between marks increase the likelihood of confusion . . . ."); AMF, Inc. v. Sleekcraft Boats, 599 F.2d 341, 351 (9th Cir. 1979) (noting

take into account human frailty and are grounded in the assumption that consumers have imperfect recollection of the marks they encounter.[65] As such, understanding consumer commercial impressions is essential to the effective application of trademark law.

How, then, can these human-based principles be applied to the artificially intelligent consumer? How can courts "place [themselves] in the shoes of [the] purchaser"[66]—as is their mandate—when the purchaser is an AI algorithm?

II. EMERGENCE OF THE 'ARTIFICIALLY INTELLIGENT' CONSUMER

In today's algorithmic marketplace, AI's ubiquitous integration into all stages of the browsing, selection, and purchase process significantly shapes user experiences and consumer decision-making through various functionalities.[67] AI algorithms analyze vast customer data, including individual user behavior and demographic analytics, in order to construct personalized shopping experiences—including curated search results, product recommendations, marketing messages, and customized dynamic pricing strategies.[68] Using machine learning, AI gathers and leverages data on customer preferences, purchase history, past website interactions, and overall market trends to forecast what an individual might want, tailoring the e-commerce experience accordingly to maximize the likelihood of successful purchases.[69]

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the visual similarity between "Sleekcraft" and "Slickcraft" in its infringement analysis); S.C. Johnson & Son, Inc. v. Drop Dead Co., 210 F. Supp. 816, 820 (S.D. Cal. 1962) (discussing the consumer confusion caused by the conceptual similarity between PLEDGE and PROMISE); Krim-Ko Corp. v. Coca-Cola Bottling Co., 390 F.2d 728, 731 (C.C.P.A. 1968) ("[A] dominant factor for consideration is the likelihood of confusion arising from the similarity in sound of the two [marks] when spoken.").

65. *See, e.g.*, WSM, Inc. v. Hilton, 545 F. Supp. 1212, 1216–17 (W.D. Mo. 1982) (citing Vitek Laboratories, Inc. v. Abbott Laboratories, Inc., 675 F.2d 190, 192 (8th Cir. 1982)) (stating that likelihood of confusion "evidence should focus on the general impression created in the minds of the public which may have an imperfect recollection of a particular mark").

66. E.I. DuPont de Nemours & Co. v. Yoshida Int'l, Inc., 393 F. Supp. 502, 510 (E.D.N.Y. 1975).

67. *See infra* Part IV discussing various types of AI's commerce capabilities.

68. *See* Kateryna Cherniak, *Chatbot Statistics: What Businesses Need to Know About Digital Assistants*, MASTER OF CODE GLOB. , https://masterofcode.com/blog/chatbot-statistics (Dec. 26, 2024) (stating that seventy percent of consumer-chatbot interactions result in a sale); Mikaela Pisani, *How AI is Replacing Cookies*, ROOTSTRAP (Aug. 1, 2022), https://www.rootstrap.com/blog/the-use-of-ai-in-a-cookieless-future; Jacques van der Wilt, *AI-Powered Dynamic Pricing Strategies for eCommerce*, DATAFEEDWATCH BLOG, https://www.datafeedwatch.com/blog/ai-dynamic-pricing (last visited Apr. 13, 2025).

69. *See* Cherniak, *supra* note 68; Pisani, *supra* note 68.

Compare this contemporary *predictive* retail model to the traditional *reactive* retailing—where the consumer first "reacts to branding cues such as words, logos and colours, then makes a purchasing decision"[70]—the foundation upon which trademark law is built. In today's algorithmic marketplace, however, AI shapes consumer choices well before they reach the stage of evaluating brand options. Following the development of the online search market in the early 2000's,[71] AI algorithms gradually overtook the initial information-gathering stage of the purchase process, presenting specific options and determining the order in which they appear.[72] Today, by virtue of advancing technologies, AI has even usurped control over the antecedent step of recognizing a need or desire for a purchase.[73] By strategically controlling the flow of information,[74] AI not only influences consumers' understanding and perception of products, but also shapes the informational context in which choices are made, steering consumers toward certain options. This AI-driven obfuscation of information and interference in the purchase process is what renders the consumer *artificially intelligent*.

As previously noted, the constraints AI imposes on consumer choice and the flow of information challenge some of the foundational assumptions underpinning trademark law. The proliferation of AI in e-commerce modalities and its strategic control over the product information landscape raises important questions about: 1) who qualifies as the average consumer in trademark proceedings—the AI navigator or human funding the transaction; and 2) how to how to accurately assess the beliefs, expectations, and impressions of consumers when the information they encounter is filtered and curated by AI algorithms. Assessing human judgment in the purchasing process plays a decisive role in trademark disputes.[75] Trademarks are inherently "psychological in nature" and trademark doctrine relies "almost entirely on ascertaining

70. *See* CURTIS & PLATTS, *supra* note 20, at 10.

71. *See* Robert Burrell & Michael Handler, *Keyword Advertising and Actionable Consumer Confusion*, *in* RESEARCH HANDBOOK ON INTELLECTUAL PROPERTY AND DIGITAL TECHNOLOGY 426, 428 (Tanya Aplin ed., 2020).

72. *See infra* Part III discussing SEO and keyword jurisprudence and how these proactive curation and strategic presentation practices dictates the initial set of choices presented to consumers.

73. *See infra* Part IV discussing autonomous AI shopping technologies.

74. Grynberg, *supra* note 15, at 200. "Before the internet, the relative scarcity of 'space' for information—be it on library shelves, newspaper pages, or television channels—conferred authority on those—be they librarians, editors, or programmers—able to curate it. Not so online. Comparatively speaking, there is room enough for practically anything. We therefore rely on filtration, rather than curation, to find information . . . ." *Id.*

75. *See supra* Part I.

the mental state of the consumer."[76] Much of trademark law hinges on the holistic impressions that consumers possess while navigating the marketplace and develop over time about individual brands.[77] Problematically, AI lacks the ability to grasp the emotional subtleties and nuances that trademark law depends on[78]—an issue that becomes even more complex when AI, rather than a human, is making purchasing decisions.

III. EARLY APPROACHES TO HIDDEN TRADEMARK USE: KEYWORD ADVERTISING AND SEARCH ENGINE OPTIMIZATION

While not involving AI in the modern sense, one of the earliest and most prominent analogues to AI's hidden use of trademarks in litigation arose in the context of keyword advertising and SEO, where courts grappled with the invisible or non-source-identifying use of trademarks online.[79] SEO is a marketing strategy designed to drive consumer traffic to a website, often incorporating paid keyword advertising.[80] Most search engine platforms provide keyword advertising services which "allow advertisers to bid on search terms, or keywords, that may attract customers searching for the products or services offered . . . ."[81] This approach is "uniquely valuable" because "it puts an [ad] in front of a consumer at the precise moment [she] is signaling her interest or intent" in a good or service.[82] Given that over half of consumers first locate good and service options on Google®,[83] SEO practices are a powerful determinant in how consumers find, access, and weigh purchase options—regardless of whether they ultimately shop online or in person.

76. Dustin Marlan, *Is the Word "Consumer" Biasing Trademark Law?*, 8 TEX. A&M L. REV. 367, 388 (2021).

77. "The commercial impression of a trade-mark is derived from it as a whole, not from its elements separated and considered in detail. For this reason it should be considered in its entirety . . . ." Estate of P.D. Beckwith, Inc. v. Comm'r of Pats., 252 U.S. 538, 545–46 (1920) (citing Johnson v. Brandau, 32 App. D.C. 348, 354 (D.C. Cir. 1909)); *see also* Rolex Watch U.S.A., Inc. v. Meece, No. 3:95-CV-1058-T, 2000 U.S. Dist. LEXIS 20583, at *15 (N.D. Tex. 2000) ("In determining the similarity of the marks, they should not be compared side-by-side because they would not be seen in that context by consumers.").

78. *See supra* text accompanying notes 42, 55.

79. *See* Burrell & Handler, *supra* note 71, at 4.

80. Paul D. McGrady, Jr., *Establishing a Website*, LexisNexis Practical Guidance (2024).

81. Brooke Clason Smith, *Keyword Advertising and Trademark Infringement*, A.B.A. (July 31, 2017), https://www.americanbar.org/groups/litigation/resources/newsletters/business-torts-unfair-competition/keyword-advertising-trademark-infringement/.

82. *Id.*

83. Heitzman, *supra* note 38.

However, problems arise in the trademark context because those purchasing the keywords may not be the relevant trademark holder for those terms (*e.g.*, Pepsi could purchase the keyword for Coca-Cola to trigger more favorable results).[84] Trademark owners have pursued claims against both the search engines selling and the advertisers purchasing trademarked keywords, arguing that the use of their trademarks in keyword advertising constitutes trademark infringement, dilution, and false affiliation by creating a likelihood of confusion among consumers.[85] This analytical territory is the closest U.S. courts have come to assessing the trademark implications of and potential liability for the *interior* workings of AI algorithms—rather than mere trademark use that is *visible* to consumers on a device screen.[86] Therefore, the courts' findings in these cases are illustrative of the potential bounds and avenues for future AI-related trademark jurisprudence.

There is ambiguity in keyword infringement case law, particularly regarding what constitutes use in commerce in this context.[87] Courts have had to perform fact-specific inquiries into whether the sale and purchase of keywords, as well as the display of ads triggered by these keywords, create a likelihood of confusion.[88] In some cases, courts have ruled that where a trademarked keyword is simply incorporated as a search term triggering certain search results by the search engine's AI language processing tool, that does not constitute "use" of a mark from an infringement perspective.[89] However, because the broad language of the Act indicates that "almost anything at all" is "capable of carrying

84. *See, e.g.*, Porta-Fab Corp. v. Allied Modular Bldg. Sys., Inc., No. 8:23-cv-00593-JLS-DFM, 2023 U.S. Dist. LEXIS 129667, at *1–2 (C.D. Cal. July 26, 2023); Rosetta Stone Ltd v. Google Inc. 676 F.3d 144, 150–51 (4th Cir. 2012).

85. Smith, *supra* note 81; *see, e.g.*, 1-800 Contacts v. WhenU.com, Inc., 414 F.3d 400, 402–03 (2d Cir. 2005); Multi Time Mach., Inc. v. Amazon.com, Inc., 804 F.3d 930, 932–33 (9th Cir. 2015).

86. *See generally* Alpana Roy & Althaf Marsoof, *Removing the Human from Trademark Law*, 55 INT'L REV. INTELL. PROP. & COMPETITION L. 727 (2024).

87. Burrell & Handler, *supra* note 71, at 4; 15 U.S.C. § 1125(a); 15 U.S.C. § 1127. To establish an infringement claim, plaintiff must allege that defendant "has made 'use in commerce' of the plaintiff's trademark." Rescuecom Corp. v. Google, Inc., 562 F.3d 123, 127 (2d Cir. 2009).

88. Burrell & Handler, *supra* note 71, at 4; 15 U.S.C. § 1125(a); *see also* Rachel R. Friedman, *No Confusion Here: Proposing a New Paradigm for the Litigation of Keyword Advertising Trademark Infringement Cases*, 12 VAND. J. ENT. & TECH. L. 355, 360 (2010) ("[C]ourts in the U.S. ha[ve] gone 'every which way' in determining whether the sale of keywords constitutes trademark infringement.").

89. *See, e.g.*, *1-800 Contacts*, 414 F.3d at 409 (analogizing defendant's hidden use of the subject trademark to "an individual's private thoughts"); Merck & Co. v. Mediplan Health Consulting, 425 F. Supp. 2d 402, 415 (S.D.N.Y. 2006) (finding that use of a trademarked keyword to trigger a competitor's site is not commercial use).

meaning" to a consumer,[90] it follows that consumer confusion should not be limited to exclusively *visual* indicia.

By contrast, in *Network Automation, Inc. v. Advanced Sys. Concepts*, the Ninth Circuit found that the Lanham Act's commercial use prong can be satisfied by unauthorized "use of a trademark as a . . . keyword that triggers the display of a competitor's [ad]."[91] The court in *Multi Time Mach., Inc. v. Amazon.com, Inc.* distinguished on a factual finding, holding that "clear labeling can eliminate the likelihood of initial interest confusion."[92] In that case, the trademark owner sued Amazon for infringement after Amazon listed competitors' products in response to a consumer search of the trademarked term, despite not selling the product itself.[93] The Ninth Circuit held that clear labeling of search results with the source of the goods eliminated the likelihood of confusion for a reasonably prudent consumer accustomed to online shopping.[94] The court in *Rescuecom Corp v. Google*, further opined in dictum that use of a mark in "internal software" does *not* "preclude[] a finding of . . . use" or immunize unauthorized users from infringement.[95] However, courts have been most likely to conclude there is likelihood of confusion where third party use of trademarked keywords is combined with some additional form of visible trademark use (*e.g.*, incorporating the term into a domain name, or the banner or body of an ad).[96]

The fact-specific nature of these rulings underscores the potential difficulty of applying rigid doctrinal rules to algorithmic decision-making. Nevertheless, the existing jurisprudence on trademark infringement in keyword advertising may offer insight into how courts approach algorithmic decision-making in AI-driven commerce. These cases suggest two key principles: First, some courts have recognized that non-visible

90. Qualitex Co. v. Jacobson Prods. Co., 514 U.S. 159, 162 (1995); 15 U.S.C § 1114 (1).

91. Network Automation, Inc. v. Advanced Sys. Concepts, 638 F.3d 1137, 1144 (9th Cir. 2011) (citing *Rescuecom*, 562 F.3d at 127).

92. Multi Time Mach., Inc. v. Amazon.com, Inc., 804 F.3d 930, 937 (9th Cir. 2015) (citing *Network Automation*, 638 F.3d at 1153–54)).

93. *Multi Time Mach.*, 804 F.3d at 933–34.

94. *Id.* at 935–36.

95. *Rescuecom*, 562 F.3d at 129–30 (holding that Google's sale of keywords resembling trademarks constituted use).

96. *See, e.g.*, Porta-Fab Corp. v. Allied Modular Bldg. Sys., Inc., No. 8:23-cv-00593-JLS-DFM, 2023 U.S. Dist. LEXIS 129667, at *1–2 (C.D. Cal. July 26, 2023) (denying motion to dismiss an infringement claim where the defendant had "arranged with Google so that when potential customers searched [for] 'portafab' in their browsers, [defendant's] products would be listed higher than Porta-Fab's" *and* defendant's ad was titled "Portafab" with a banner reading "Buy Portafab Today"); *see also* Digby Adler Grp. LLC v. Image Rent a Car, Inc., 79 F. Supp. 3d 1095, 1102 (N.D. Cal. 2015) (granting summary judgment for the trademark owner where defendants purchased a keyword containing a registered mark and also used the mark in its own domain name).

uses of trademarks—such as in the internal operations of search engines—can, under certain circumstances, constitute actionable trademark use; and second, courts are generally more inclined to find infringement when a trademark is visibly incorporated into an ad, search result, or other consumer-facing content.

However, these principles emerged from cases involving rule-based systems that followed predetermined logic—mechanisms that, while algorithmic, were far more transparent and predictable than the AI technologies shaping commerce today. Unlike the deterministic frameworks underlying SEO and keyword advertising, modern AI systems do not merely retrieve information based on preset rules but instead engage in complex inference, learning from user behavior to predict, recommend, and even influence consumer decisions. As AI capabilities continue to advance, courts will need to adopt novel interpretations of trademark law to account for the new ways AI functions in marketplace.[97]

IV. EVOLVING AI TECHNOLOGIES AND THE ARTIFICIALLY INTELLIGENT CONSUMER

Today, there are a growing number of AI functionalities operating at scale[98] that are radically dissimilar to the algorithmic processes and consumer behavior assumed by extant trademark law.[99] Today's algorithmic marketplace critically differs even from the landscape analyzed in somewhat recent SEO, keyword, and metatag jurisprudence, which involved deterministic systems with structured outputs—software "where the output is *pre-determined* . . . by a strict algorithm"—*if x, then y*.[100] By stark contrast, the contemporary artificially intelligent consumer encounters increasingly autonomous generative AI ("GenAI") systems that "infer[]," "predict[]," "recommend[]," and even "*deci[de]*."[101] Unlike

97. *See infra* Part IV.

98. *See infra* notes 120, 123, 127–29, 132 and accompanying text quantifying the increased commercial use of these technologies.

99. *See supra* Part I.

100. *See* Frederiek Fernhout & Thibau Duquin, *The EU Artificial Intelligence Act: Our 16 Key Takeaways*, STIBBE (Feb. 13, 2024), https://www.stibbe.com/publications-and-insights/the-eu-artificial-intelligence-act-our-16-key-takeaways (emphasis added).

101. *See* Council Regulation 8115/21 of Jan. 26, 2024, Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence, 2024 O.J. (5662/24), 97 (emphasis added) (defining AI); Ayesha Gulley & Airlie Hilliard, *Lost in Transl(A)t(I)on: Differing Definitions of AI*, HOLISTIC AI (Feb. 19, 2024), https://www.holisticai.com/blog/ai-definition-comparison (highlighting the evolving levels of autonomy in AI systems as evidenced by changing legal and organizational definitions of AI).

keyword-based search algorithms, these new AI-driven tools do not simply retrieve and rank results based on user input—they engage, interpret, filter, and even make autonomous purchasing decisions on behalf of consumers.

Major brands are increasingly "ditch[ing] the search bar"[102] in favor of sophisticated GenAI e-commerce tools that are rapidly transforming the marketplace.[103] These tools—ranging from chatbots to smart shopping assistants to even AI-powered home appliances—use advanced natural language processing ("NLP") and machine learning to engage consumers in conversations, suggest products, and guide purchasing decisions. The growing integration of such technologies reflects a shift toward personalized, AI-mediated shopping, where choices are influenced not by traditional branding and marketing alone, but by AI-driven decision-making and curation.

A. Conversational AI Shopping Assistants

Conversational AI is rapidly redefining e-commerce by acting as an intermediary between consumers and the marketplace, guiding purchasing decisions in ways that are often invisible to the consumer. Tools like eBay® ShopBot[104] and Amazon Rufus™ represent this shift, using deep learning algorithms to interpret user queries, recommend products, and filter purchasing options. eBay® ShopBot mimics human storekeeper interactions, employing NLP to process customer inquiries and provide tailored product suggestions.[105] Rufus™, Amazon's GenAI-powered assistant, takes this a step further, not only responding to consumer questions but also helping users compare products, assess quality (*e.g.*, what are others saying about this product, or what features should I consider when purchasing running shoes?), and navigate the

102. *Walmart and Amazon Turn to GenAI and Ditch the 'Search' Bar*, PYMNTS (Oct. 11, 2024), https://www.pymnts.com/whole-paycheck-consumer-spending/2024/walmart-and-amazon-turn-to-genai-and-ditch-the-search-bar/.

103. Curtis, *supra* note 12, at 1. ("Tech giants realise [that AI acts as an intermediary between the consumer and brands], and are investing heavily in the technology to 'own' that intermediary . . . .").

104. RJ Pittman, *Say "Hello" to eBay ShopBot Beta*, EBAY (Oct. 17, 2016), https://www.ebayinc.com/stories/news/say-hello-to-ebay-shopbot-beta/.

105. *See* Lilly Pollock, *What are NLP Chatbots and How do they Work?*, ZENDESK BLOG, https://www.zendesk.com/blog/nlp-chatbot/ (Aug. 5, 2024). NLP technologies leverage AI algorithms to analyze customer preferences, browsing history, and purchasing behavior to offer tailored product suggestions. *See id.* Using machine-learning tech that continuously learns from interactions and feedback, AI-powered shopping assistants adapt and improve recommendations over time. *See id.*

entire shopping journey—right through to the final purchase.[106] This type of engagement goes beyond simple product search, shaping consumer choices in real-time by leveraging contextual information and historical data.

B. Voice-Activated Shopping

Other emerging AI tools, like Amazon Alexa® and Google Home®, are redefining how consumers shop. These smart home devices use a combination of voice-recognition, natural language understanding ("NLU"), and text-to-speech ("TTS") technology to conduct hands-and-eyes-free product searches, and even complete transactions—without ever needing to see a screen or click a button.[107] Given that roughly half of U.S. consumers use voice search to research and complete purchases, these AI-driven transactions are no longer peripheral—they are becoming a dominant mode of online commerce.[108] AI agents play a particularly potent filtration role in voice-activated search because the human consumer "has no knowledge of . . . the products and brands" available or being searched.[109] In this context, visual elements are removed entirely and further obscure the role of trademarks as consumer identifiers. This striking asymmetry of information fundamentally alters the relationship between trademarks and consumer choice.

C. Predictive Purchasing and Autonomous AI Shoppers

Predictive AI technology is becoming more integrated into everyday life with smart appliances like Samsung®'s Family Hub™ fridge, which utilizes AI to assess fridge contents and suggest further purchases based

106. *See* Rajiv Mehta & Trishul Chilimbi, *Amazon Announces Rufus, A New Generative AI-Powered Conversational Shopping Experience*, AMAZON (Feb. 1, 2024), https://www.aboutamazon.com/news/retail/amazon-rufus. This AI assistant is trained on "product catalog, customer reviews, community Q&As, and information from across the web to answer customer questions on . . . products, provide comparisons, and make recommendations based on conversational context." *Id.* Rufus even controls the precursory step of recognizing the need for a product (*e.g.*, determining what to purchase for Valentine's Day or a skiing trip). *See id.*

107. *See* Alexandre Gonfalonieri, *How Amazon Alexa Works? Your Guide to Natural Language Processing (AI)*, MEDIUM (Nov. 21, 2018), https://medium.com/data-science/how-amazon-alexa-works-your-guide-to-natural-language-processing-ai-7506004709d3; Curtis, *supra* note 12, at 1 (AI voice searches "principally funnel[] or screen[]" products).

108. Naveen Kumar*, 68 Voice Search Statistics (2025) — Worldwide Users & Trends*, DEMANDSAGE (Feb. 4, 2025), https://www.demandsage.com/voice-search-statistics/.

109. Curtis, *supra* note 12, at 2.

on items in your fridge, expiration dates, and online recipes.[110] This smart appliance can automatically place items into your cart for direct purchase via its screen with integrated services like Amazon Fresh®, Walmart®, ShopRite®, and Instacart®[111] and also allows users to communicate with AI voice assistants, such as Bixby and Amazon Alexa®[112]

Walmart®'s soon-to-be-launched "InHome Replenishment" system takes the concept of the artificially intelligent consumer further—by removing the need for direct consumer involvement altogether. This AI-powered system autonomously orders groceries and household essentials based on a personalized algorithm that not only tracks an individual's purchase history, but also leverages Walmart's vast dataset on broader consumer purchasing patterns and typical usage rates.[113] Unlike traditional subscription services, like Amazon®'s Subscribe & Save®[114], Walmart's AI continuously learns and predicts needs dynamically in real-time, without requiring human involvement at any stage. If the AI is making purchasing decisions based on past behavior or general market factors, rather than active consumer choice, where does brand loyalty fit in? Might Walmart's AI prioritize a different brand based on promotions, supply chain considerations, or partnerships with specific manufacturers? If "the future of . . . shopping is [indeed] no . . . shopping at all,"[115] new frameworks for understanding how trademarks function in an algorithmically driven marketplace will become increasingly necessary.

110. *The Industry's Smartest Refrigerators*, SAMSUNG, https://www.samsung.com/us/explore/family-hub-refrigerator/overview/ (last visited Apr. 13, 2025); *There's Something for Everyone*, SAMSUNG, https://www.samsung.com/us/explore/family-hub-refrigerator/features/ (last visited Apr. 13, 2025).

111. *Id.*

112. *Id.* (*e.g.*, "Hi Bixby, find recipes with ingredients that are expiring soon," or "Hi Bixby, add expired items from View Inside to Shopping List.")

113. *From Aisles to Algorithms: Walmart's Tech-Forward Innovations for Time-Saving Shopping*, WALMART (Jan. 9, 2024), https://corporate.walmart.com/news/2024/01/09/from-aisles-to-algorithms-walmarts-tech-forward-innovations-for-time-saving-shopping. For example, the system can automatically restock eggs or coffee based on both a household's specific consumption habits and aggregated data on how frequently similar households typically require those items. *See id.*

114. *Subscribe & Save: How Does It Work?*, AMAZON, https://www.amazon.com/b?ie=UTF8&node=15283820011 (last visited Apr. 13, 2025).

115. David Pierce, *Walmart is Betting that AI Can Help You Shop Faster—And Maybe Do Your Shopping for You*, VERGE (Jan. 9, 2024, 5:00 PM), https://www.theverge.com/2024/1/9/24032017/walmart-ai-shopping-replenishment-in-home.

D. Artificial Intelligence in Physical Retail

Even in-person shopping is no longer immune from AI interference. Instacart®'s Caper™ carts—AI-powered smart shopping carts—"act[] like a conduit between in-store and online shopping experiences,"[116] demonstrating how AI can shape consumer purchasing habits in brick-and-mortar stores. These smart carts automatically track items placed inside them and integrate personalized recommendations and discount incentives based on in-cart selections, customer's shopping history, and even their location within the store through "aisle-aware advertising."[117] The digital screen embedded in the cart integrates proposed shopping lists, promotes tailored discounts, and even employs gamified features—such as spin-to-win games—to incentivize unplanned purchases, nudging consumers toward items they might not have otherwise considered.[118] Crucially, these recommendations are not solely driven by consumer preference, but are also shaped by paid advertising and retailer priorities—steering shoppers toward products that brands have paid to promote or that stores are strategically trying to move off shelves.[119]

E. Visual Search

Another emerging method of product discovery contributing to shifting consumer habits is image-based search, or "visual search"—a rapidly advancing area of AI with far-reaching commercial uses and potential trademark implications.[120] Visual search leverages AI machine-vision technology to "read" images and generates search results based on

116. *The Evolution of Grocery List Technology*, INSTACART (Sept. 30, 2024), https://www.caper.ai/blog-posts/the-evolution-of-grocery-list-technology.

117. *Instacart Launches New Gamified Capabilities Maximizing In-Store Rewards and Savings on Caper Carts*, INSTACART (Oct. 7, 2024), https://investors.instacart.com/news-releases/news-release-details/instacart-launches-new-gamified-capabilities-maximizing-store.

118. *Id.*

119. *The Future of In-Store Digital Advertising: How Connected Technology Powers Omnichannel Engagement for Grocers*, INSTACART (Aug. 25, 2024), https://www.caper.ai/blog-posts/the-future-of-in-store-digital-advertising-how-connected-technology-powers-omnichannel-engagement-for-grocers. Instacart explicitly markets these carts as a tool for advertisers, boasting that consumers are "highly engaged with the screen as they decide what to drop in or remove" *Make Shopping Magic*, INSTACART, https://www.caper.ai (last visited Apr. 13, 2025).

120. *See* Kaleigh Moore, *Why More Retail Brands Are Launching Visual Search Tools*, FORBES (Sept. 4, 2019, 8:58 AM), https://www.forbes.com/sites/kaleighmoore/2019/09/04/why-more-retail-brands-are-launching-visual-search-tools/?sh=76a35f6a1bda.

the content within them,[121] enabling consumers to search using user-uploaded images to locate and compare products.[122] A growing number of retailers and service providers are integrating this technology directly into their websites.[123] Additionally, consumers are increasingly turning to visual search platforms like Google Lens® to locate cheaper or even counterfeit options using images of other brands' products.[124]

Courts have yet to address whether such visual product comparison and substitution technologies can give rise to actionable trademark claims.[125] While comparative advertising is permitted under trademark law,[126] issues related to trade dress may emerge when visual search tools mistakenly associate similar product designs or packaging with a particular brand, potentially infringing on its distinct visual identity. In light of these concerns, AI platforms and service providers should implement policies to address the removal of counterfeit goods or misleading content, ensuring that consumer confusion and false affiliations are minimized.

Twenty-one percent of adults aged eighteen to fifty-four regularly use visual search to shop[127] and this practice is likely to see even wider adoption and routine use as wearable AI technologies like smart glasses

121. *See, e.g.*, *Search with an Image on Google*, GOOGLE, https://support.google.com/websearch/answer/1325808?hl=en&co=GENIE.Platform%3DDesktop (last visited Apr. 13, 2025) (describing the Google Lens® visual search feature).

122. *See* Moore, *supra* note 120.

123. *See id.*; ODSC—Open Data Sci., *Six Big Companies That Use Visual Search*, MEDIUM (Nov. 13, 2018), https://odsc.medium.com/six-big-companies-that-use-visual-search-c98f455057b2.

124. Yola Mzizi, *How Google Is Making It Easier to Find Dupes*, BUS. OF FASHION (Dec. 11, 2023), https://www.businessoffashion.com/articles/beauty/google-technology-dupes-easier-to-find/ (describing the growing practice of using Google Lens® to find "cheap replicas of high-end products" or simply discover new brands).

125. *See generally* REBECCA DALTON ET AL., 4 WAYS GENERATIVE AI MAY IMPLICATE TRADEMARKS (Law360 2023).

126. *See* 15 U.S.C. § 1125. Fair use of a mark by another in comparative commercial advertising is not actionable under the Lanham Act. *See id.*

127. *Share of Adults Interested in Visual Search for Online Shopping in the United States in 2022, by Age Group*, STATISTA (Sept. 2022), https://www.statista.com/statistics/1334763/internet-users-interest-in-making-purchases-with-visual-search-united-states/ [*hereinafter Share of Adults Interested in Visual Search for Online Shopping*].

(*e.g.*, RayBan®-Meta®)[128] and smart pins[129] become more commonplace. These devices, which integrate augmented reality ("AR") with visual search features, enable users to interact with their physical environment to instantly access information, product recommendations, pricing, and alternatives—all within the user's field of vision.[130] These AI wearables alter the informational contexts in which consumers operate and are interactive, and work in real time. For instance, a consumer might scan an unfamiliar vegetable and ask, "What can I cook with this?," check the nutritional benefits of a brand of vitamins, or compare dish soaps to determine which one the AI recommends.

The adoption of wearable AI technologies presents unique challenges for trademark law. For one, it raises questions about how brands will be represented and identified in these increasingly immersive and personalized environments. Additionally, the integration of visual search within these wearables could lead to inadvertent brand confusion or infringement, as consumers may be directed to competing products based on visual similarity rather than brand recognition.

V. PROPOSED AMENDMENT TO THE LANHAM ACT

Traditional retail methods have been largely supplanted by these AI innovations, which are being used to make purchases at unprecedented rates.[131] An estimated twenty-six percent of sales transactions begin with chatbots, and experts project that the value of purchases made through

128. *Next-generation Search*, INFO. COMM'R'S OFF. (Feb. 29, 2024), https://ico.org.uk/about-the-ico/research-reports-impact-and-evaluation/research-and-reports/technology-and-innovation/tech-horizons-report/next-generation-search/ [hereinafter INFO. COMM'R'S OFF.]; *see also, e.g.*, *Future Friday: Shopping With AR Smart Glasses*, VUZIX, https://www.vuzix.com/blogs/vuzix-blog/future-friday-shopping-with-ar-smart-glasses (last visited Apr. 13, 2025) (discussing the shopping capabilities of Vuzix® smart glasses); *Smart Glasses for Living All In*, RAY-BAN, https://www.ray-ban.com/usa/discover-ray-ban-meta-smart-glasses/clp (last visited Nov. 18, 2024) (describing the smart glasses voice recommendation feature).

129. Paresh Dave, *Humane's AI Pin Is a $700 Smartphone Alternative You Wear All Day*, WIRED (Nov. 9, 2023, 12:00 PM), https://www.wired.com/story/humane-ai-pin-700-dollar-smartphone-alternative-wearable/. The Humane AI Pin™ attaches to the front of users' clothing and is equipped with a camera and microphone for conducting web searches, object identification, and eventually, shopping. *Id.*

130. *See* Amanda Caswell, *I Went Shopping Wearing the AI-Powered Meta Ray-Bans — Here's What I Love and What Annoyed Me*, TOM'S GUIDE (Nov. 12, 2024), https://www.tomsguide.com/ai/i-went-shopping-wearing-the-ai-powered-meta-ray-bans-heres-what-i-love-and-what-annoyed-me.

131. *See Artificial Intelligence (AI) in Retail Market*, FORTUNE BUS. INSIGHTS, https://www.fortunebusinessinsights.com/artificial-intelligence-ai-in-retail-market-101968 (Mar. 24, 2025) (projecting that the global market for AI in retail will grow from $9.36 billion in 2024 to $85.07 billion by 2032).

smart assistants will have grown a staggering 630% from 2020 to 2025.[132] Moreover, the predominantly predictive (as opposed to reactive) nature of emerging commerce technologies critically differs even from the trademark-world that was reconfigured in keyword advertising jurisprudence in the not-so-distant past.[133] The development and increased use of rapidly advancing, multi-modal and query-less search technologies[134] will continue to test trademark analyses. As e-commerce transactions increasingly take place through AI-powered means,[135] trademark law will have to adapt to the artificially intelligent consumer.

Although the average consumer is a pliable concept,[136] the trajectory of AI advancements and increasing reliance on AI in decision-making indicate that the Lanham Act should be updated to reflect new realities and the function AI plays in the commercial behavior upon which trademark law is based. The proposed amendments that follow are also clearly outlined in the Appendix on this Article.

> One area for amendment is to expressly define "consumer" in Section 43 ("§ 43") as follows:
>
> The term "consumer" refers to any individual or entity, human or machine,[137] that accesses, processes, and acts upon commercial information in the context of purchasing goods or services.

The current "use in commerce" definition for goods focuses on mark use that is "placed" or "display[ed]" on or in association with a product[138]—which reveals a preference for visual indicia. Expanding this

132. Cherniak, *supra* note 68 (Forty-two percent of B2C retailers have chatbots integrated into the purchasing process); Statista Research Department, *Voice Commerce in the United States—Statistics & Facts*, STATISTA (Dec. 18, 2023), https://www.statista.com/topics/5406/voice-commerce-in-the-united-states/#topicOverview ("More than [twenty-seven] percent of U.S. consumers were making online payments with voice assistants in mid-2022.").

133. "Increased use of multi-modal search [has allowed users] to move away from purely text-based search." INFO. COMM'R'S OFF., *supra* note 128. Moreover, there has been growth of diverse modes of query-less or "ambient" search, in which "information [is] presented in varying forms to the user without the need for a specific user input." *Id.*

134. *Id.*

135. Cherniak, *supra* note 68; *Share of Adults Interested in Visual Search for Online Shopping*, *supra* note 127.

136. Curtis, *supra* note 12, at 3.

137. The term "machine" has been chosen to accommodate the constantly-adapting nature of AI, which conceivably could take even further novel forms in the future. It should be understood as a term of convenience, that could encompass nontraditional machinic technologies.

138. *See* 15 U.S.C. § 1127.

definition to parallel the language of the services definition—when trademarks are "*used* or displayed" in sales or advertising, would critically address cases where hidden algorithmic trademark use failed to constitute trademark use for infringement, dilution, and false affiliation purposes.[139] The use in commerce definition could also be modified to explicitly recognize trademark use in other non-visual contexts, by adding: ". . . or otherwise integrated into digital interfaces."

Including a § 43 definition of "machine" will provide further clarity. To foster uniformity across major international markets, this should mirror the language of the EU Artificial Intelligence Act,[140] adapted as follows:

> *The term "machine" refers to current and future technology, digital or otherwise* designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments.[141]

Perhaps the most critical area for amendment is § 43(a), which creates a civil cause of action for false or misleading representations of goods or services in commerce and from which the likelihood of confusion standard stems.[142] The Act currently creates liability for third party use by "any *person*" that is likely to cause confusion, mistake, or to deceive a "another *person*."[143] The former reference to "person" should be followed by the further "or machine" to encompass situations where AI has wrongfully been led to divert consumer attention that results in

139. *See, e.g.*, Rescuecom Corp. v. Google, Inc., 456 F.Supp.2d 393, 403 (N.D.N.Y. 2006) (holding "internal use" was not actionable because defendant did not "*place*[]" it "on any goods, containers, displays, or advertisements") (emphasis added).

140. *See* EU Artificial Intelligence Act, *supra* note 23, recital 12, https://artificialintelligenceact.eu/recital/12/ (reasoning that the Act's definition of AI system "should be clearly defined and [aligned internationally] to ensure legal certainty, facilitate international convergence and wide acceptance, while providing the flexibility to accommodate the rapid technological developments in this field"). The broad language of the EU Artificial Intelligence Act's definition ensures adaptability as AI evolves and, unlike earlier definitions, has been modernized to account for the growing autonomy of state-of-the-art AI. *See* Gulley & Hilliard, *supra* note 101 (discussing varying organizational and legal definitions of AI internationally over time).

141. *See* EU Artificial Intelligence Act, *supra* note 23 art. 3, par. 1, https://artificialintelligenceact.eu/article/3/ (emphasis indicates adapted language not contained in the EU Artificial Intelligence Act).

142. *See* 15 U.S.C. § 1125.

143. 15 U.S.C. § 1125(a)(1)(A) (emphasis added).

confusion about a product's source.[144] To address scenarios where consumption has been heavily influenced, facilitated, or directly executed by AI actors, the Act should be amended to read "another person or machine acting upon commercial information in the context of purchasing goods or services."[145]

VI. ARTIFICIAL INTELLIGENCE AND INITIAL INTEREST DOCTRINE

In response to a number of internet-based issues in the past two decades, a growing number of circuits have expanded the likelihood of confusion standard with the "initial interest confusion" doctrine.[146] Under this theory, "[i]nfringement can be based upon confusion that creates initial customer interest, even though no actual sale is . . . completed as a result of the confusion."[147] In practice, initial interest confusion occurs "when a consumer seeks a particular trademark holder's product and instead is lured to the product of a competitor by the competitor's use of the same or a similar mark."[148] So, while the consumer in this scenario knowingly buys the competing product and any "confusion" about its source has been dispelled by the time of purchase, the theory operates under the premise that the competitor has induced the purchase of its own product by initially gaining the attention of the consumer with (and thereby profiting off of the goodwill of) the senior trademark holder, by virtue of the generation of a false association between the brands.[149] The Tenth Circuit, for example, has recognized

144. *See id.*; *infra* Appendix.

145. *See* § 1125(a)(1)(A); *infra* Appendix.

146. Initial interest doctrine, although recognized as early as 1975, was seldom invoked until its application in the internet context during the early 2000's. *See* Grotrian v. Steinway & Sons, 523 F.2d 1331, 1341–42 (2d Cir. 1975); Jennifer E. Rothman, *Initial Interest Confusion: Standing at the Crossroads of Trademark Law*, 27 CARDOZO L. REV. 105, 109–10, n.8 (2005) (The "proliferation of [the doctrine was] driven primarily by the development . . . of the Internet."). However, the Eighth Circuit only adopted the theory in 2021. *See* Select Comfort Corporation v. Baxter, 996 F.3d 925, 936 (8th Cir. 2021). In doing so, it joined the Second, Third, Fifth, Sixth, Seventh, Ninth and Tenth Circuits in recognizing initial interest theory in certain contexts. *See* Gregory P. Gulia et al., *Trademark Litigation: Likelihood of Confusion*, Westlaw Prac. Note (2024).

147. Hoffmannn Bros. Heating v. Hoffman Air Conditioning & Heating, LLC, No. 4:19-cv-00200-SEP, 2023 U.S. Dist. LEXIS 53375, at *40–41 (E.D. Mo. Mar. 29, 2023) (quoting 4 MCCARTHY ON TRADEMARKS & UNFAIR COMPETITION § 23:6 (5th ed.)).

148. Australian Gold, Inc. v. Hatfield, 436 F.3d 1228, 1238 (10th Cir. 2006).

149. The injury caused by initial interest infringement manifests in three ways:

(1) the original diversion of the prospective customer's interest to a source that he . . . erroneously believes is authorized; (2) the potential . . . effect of that diversion on the customer's ultimate decision whether to purchase caused by an erroneous impression that two sources of a product may be associated; and (3) the initial credibility that the would-be

Lanham Act claims based on initial interest confusion where the "unauthorized use of trademarks [was used] to divert internet traffic, thereby capitalizing on a trademark holder's goodwill."[150]

Although initial interest doctrine has yet to receive broad application in an AI context,[151] the theory offers a promising avenue that adapts existing trademark principles to combat bad faith algorithmic applications to leverage other's trademark rights to disorient, divert and displace consumer attention. In the context of AI-mediated purchases, initial interest confusion could be triggered when an algorithm diverts a consumer's attention to a competing product or brand, creating a false association.[152] Courts have begun to recognize that the use of marks by AI-powered mechanisms on an e-commerce platform could "plausibly support a claim" of initial interest confusion.[153] In one such case, a search for "Williams & Sonoma" led to and prioritized a sponsored ad banner imploring consumers to "[b]uy Williams & Sonoma" on Amazon.[154] Even though the consumer was on notice they would be directed to Amazon if they clicked onward, the ad "describe[d] its affiliation with [plaintiff] in a potentially misleading fashion" and "divert[ed] consumers away from [the plaintiff's] authorized sales channels and toward [defendant's site]."[155]

By contrast, in *Multi Time*, the Court reasoned that even though a search of Plaintiff's registered trademark in Amazon triggered a result list of *exclusively* competitor products, that because Amazon "clearly label[ed]" the true seller, by the time the purchasing decision was made, any potential source or affiliation confusion had been dispelled.[156] Under initial interest doctrine, despite the fact that the consumer eventually realized "the product [wa]s not the one originally sought," the trademark owner may have had an actionable claim because the competitor benefited from the consumer's initial confusion and diverted them from

buyer may accord to the infringer's products[—]that otherwise may be unwarranted and that may be built on the strength of the protected mark, reputation and goodwill.
Id. at 1239.

150. *Id.*

151. *See, e.g.*, Williams-Sonoma, Inc. v. Amazon.com, Inc., No. 18-cv-07548-EDL, 2019 U.S. Dist. LEXIS 226300, at *36 (N.D. Cal. May 2, 2019).

152. 15 U.S.C. § 1125. Consider a scenario where an AI algorithm recommends a competitor's product as an alternative to a well-known branded product. Despite the consumer ultimately choosing the mark owner's brand, the initial diversion could result in confusion regarding the relationship between the two brands.

153. *Williams-Sonoma*, 2019 U.S. Dist. LEXIS 226300, at *20.

154. *Id.* at *16.

155. *Id.* at *20.

156. Multi Time Mach., Inc. v. Amazon.com, Inc., 804 F.3d 930, 933 (9th Cir. 2015).

authorized sales channels.[157] Moreover, what courts deem clearly labeled for a discerning human consumer privy to holistic impressions of a good may not be so clear to an autonomous AI purchaser relying solely on readable data.[158]

Courts that have held initial interest doctrine does not apply to pre-purchase confusion, absent trademark use that is visible to consumers, justify their findings on the fact that by the time a consumer completes the purchase, the true seller of the product has been disclosed and therefore, there is low likelihood of confusion.[159] Even assuming the soundness of this logic arguendo, this reasoning overemphasizes consumer protection rationales and fails to recall that although "in the end consumers also benefit from the Act's enforcement, the cause of action is for competitors, not consumers."[160] Courts have also rejected initial interest claims in the internet context because "relevant [web] consumer[s] . . . exercise a high degree of care" or are accustomed to "reaching unintended websites and can easily navigate from one website to another."[161] However, this logic cannot extend to newer AI-powered modes of purchase—due to the information and control imbalances inherent to them—wherein consumers are either uninvolved in the search and selection process altogether or provided with limited product suggestions.[162]

If applied in the AI context, initial interest confusion could resolve this gap by making actionable earlier stages of the purchasing process, where consumer interest is first induced. Case law in several circuits indicates that initial interest may be an appropriate lens through which

157. *Williams-Sonoma*, 2019 U.S. Dist. LEXIS 226300, at *20 (quoting Australian Gold, Inc. v. Hatfield, 436 F.3d 1228, 1238 (10th Cir. 2006)).

158. Facts found to be dispositive by courts in finding initial interest confusion include the overall "shopping experience," "design of the web page," "official *look* of the product imagery" and placement of images and descriptions. *Id.* at *16, *19, *24 (emphasis added); *see also* Network Automation, Inc. v. Advanced Sys. Concepts, 638 F.3d 1137, 1154 (9th Cir. 2011) ("The labeling and appearance of the [ads] as they appear on the results page includes more than the text . . . and must be considered as a whole.").

159. *See e.g.*, *Multi Time Mach.*, 804 F.3d at 933 ("Because Amazon's search results page clearly labels the name and manufacturer of each product . . . [and] includes photographs . . . no reasonably prudent consumer accustomed to shopping online would likely be confused as to the source of the products.").

160. POM Wonderful LLC v. Coca-Cola Co., 573 U.S. 102, 107 (2014) ("Competitors are within the class that may invoke the Lanham Act because they may suffer 'an injury to a commercial interest in sales or business reputation proximately caused by [a] defendant's misrepresentations.'").

161. *Multi Time Mach.*, 804 F.3d at 940; Gulia et al., *supra* note 146.

162. For example, "[b]y the very limitations of voice search[,] . . . at most such [apps] only make three product suggestions . . . compared with the thousands of options . . . available in a typical web-based search." *See* Curtis, *supra* note 12, at 2.

to assess and regulate hidden algorithmic use of marks that contribute to surreptitious diversion of consumers to competitors' sites.[163] For example, the Tenth Circuit affirmed denial of defendant's motion for judgment as a matter of law on the grounds that initial interest confusion was plausibly generated by defendant's use of plaintiff's marks in the metatags and HTML code of its website to "attract customers" to the site.[164] If the AI itself is viewed as a decision-making consumer who initially sifts through and makes sense of purchase options (and with recent technology, autonomously makes purchases), initial interest could be used to challenge bad faith attempts to mislead AI algorithms into prioritizing competitors while obscuring trademark owners.

VII. INTERNATIONAL APPROACHES TO AI-GENERATED INFRINGEMENT LIABILITY

Questions may also arise in future trademark jurisprudence concerning whether an AI shopping assistant that suggests a product which infringes on a trademark can be considered a secondary infringer or whether AI providers can be held liable for infringement by its algorithms.[165] Although no known cases have yet "directly dealt with the issue of AI and liability in trademark infringement," several recent overseas cases pertaining to AI-generated advertising may be illustrative of how such issues will play out in future litigation involving newer technologies.[166]

In *Louis Vuitton v. Google France*, the Court found that Google® was not liable for its AI-powered AdWords platform (which automatically selected keywords that contained plaintiff's trademarks) because Google®

163. *See, e.g.*, Brookfield Commc'ns, Inc. v. W. Coast Ent. Corp., 174 F.3d 1036, 1061–65 (9th Cir. 1999) (holding that defendant improperly benefited from plaintiff's by leveraging its mark in site metatags); Australian Gold, Inc. v. Hatfield, 436 F.3d 1228, 1233–34 (10th Cir. 2006) (finding that defendant's use of plaintiff's marks in metatags and "html code" warranted denial of defendant's motion for judgment as a matter of law).

164. *Australian Gold*, 436 F.3d at 1231, 1233–34, 1234 n.3 (citing Deborah F. Buckman, *Initial Interest Confusion Doctrine Under Lanham Trademark Act*, 183 A.L.R. FED. 553, 575 (2003) ("A metatag is a part of a Web site that is not seen by the public, but is read by search engine web browsers and later used by the browsers to classify the Web site. Metatags are used to increase the probability that a Web site will be seen by a customer who has typed a particular search query into his or her search engine.").

165. CURTIS & PLATTS, *supra* note 20, at 13. Secondary infringement refers to situations where someone indirectly violates trademark rights by facilitating others in infringing those rights—typically when a person or entity knowingly provides goods, services, or support to someone else who is using a trademark unlawfully. *See* Inwood v. Ives, 456 U.S. 844, 854 (1982).

166. Curtis & Platts, *supra* note 8.

had not taken an "active" or knowing role in the data stored or its use.[167] Other cases similarly indicate that platforms will not generally have liability for the infringing acts of AI, so long as the "AI application provider ha[s] in place sufficient take down procedures . . . and were not on notice of infringing activity . . . ."[168] International case law suggests that where the AI provider is *involved* in the infringing activity, they could be liable. In *Lush v. Amazon UK*, the High Court determined that Amazon was liable for infringement for its algorithm's use of the LUSH trademark to trigger and appear in sponsored ads for competitors where Amazon did not actually sell Lush products, leading to potential confusion as to the good's source.[169] Because this case "will likely provide guidance" in U.S. jurisprudence,[170] for now we can conjecture that, at the very least, platforms will be disallowed from using registered marks both as a search term keyword and in the related sponsored advertisements where the ad does not make clear that such goods are not available for sale on their website.[171]

The reasoning in a federal decision in Germany involving Ortlieb Sportartikel and Amazon, could be applied to cases where AI's functionality has been manipulated to trigger competitor goods in search results or in recommendations by smart or autonomous AI shopping assistants.[172] In *Ortlieb II* Amazon was found liable where competitor ads were algorithmically triggered when plaintiff's trademark was entered as a search term in Google® based on past consumer behavior data and

167. *See* Case C-236/08, Google France v. Louis Vuitton Malletier SA, ECLI:EU:C:2010:159, ¶¶ 110–20 (Mar. 23, 2010), https://curia.europa.eu/juris/document/document.jsf;jsessionid=27F229E46C0145148432CADC80E5CD3A?text=&docid=83961&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=665101.

168. Curtis & Platts, *supra* note 8. However, in *Coty v. Amazon*, the German Supreme Court found that "although Amazon was not an infringer, it could be liable due to breach of duty of care by contributing intentionally and causally to the . . . infringement." Yvonne Stone & Jana Bogatz, *Coty v Amazon Continues: Latest Decision Highlights the Right to Inspection Under German Trademark Law*, WORLD TRADEMARK REV. (Mar. 25, 2021), https://www.worldtrademarkreview.com/article/coty-v-amazon-continues-latest-decision-highlights-the-right-inspection-under-german-trademark-law.

169. *Compare* Lush Ltd. v. Amazon UK [2014] EWHC 181 (Ch) [42] (Eng.), *with* Multi Time Mach., Inc. v. Amazon.com, Inc., 804 F.3d 930, 933, 940 (9th Cir. 2015).

170. AIPLA Comments, *supra* note 28.

171. *See* Colin Sawdy, *Lush v Amazon: The High Court Determines that Amazon's Use of the Trade Mark LUSH in Its Sponsored Advertisements and On Its Website Constitutes Trade Mark Infringement*, MONDAQ (Mar. 1, 2014), https://www.mondaq.com/uk/trademark/296274/lush-v-amazon.

172. *See* Oberlandesgericht München [OLGMUEN] [Munich Higher Regional Court] July 25, 2019, I ZR 29/18 (Ger.), http://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&Datum=Aktuell&nr=97816&linked=pm.

use of the mark in the competitor's product descriptions—both of which are key aspects of AI applications.[173] The courts' logic that consumers would have been "conditioned" to expect the plaintiff's products were what was being sold[174] could address other types of AI cases where the *internal* drivers of AI functionality, such as past purchase behavior, search history, and natural language processing are taken advantage of. Thus, in cases where it can be shown that consumers have come to expect, through conditioning, that results or recommendations are related to the mark being searched or sought (because that is the typical outcome), it is possible under the *Ortlieb* reasoning that a court could find plausible confusion in support of infringement, dilution, or false association.[175]

Consider the following application. Unlike keywords, which are bid upon and purchased by advertisers, with Product Listing Ads ("PLAs") the search engine algorithm *selects* "'relevant' keywords[] based on the product description and prior user behavior."[176] Although a platform is often considered a "neutral intermediary" for infringement purposes (unless actively involved),[177] *Ortlieb* suggests that it is possible that AI providers could lose this protective status where they have not merely given advertisers the opportunity to use a trademarked keyword, "but actively makes this choice on their behalf *via algorithms*."[178]

In the GenAI context, AI-created ads may create similar risk of infringement or dilution—the bounds of which U.S. courts have not yet delineated. Google®, for example, has developed an automated GenAI system that uses web-crawling technology to extract keywords from the advertiser's website and automatically produce advertisements using those keywords and related AI-generated language.[179] So, in Google®'s words, "[w]hen someone searches on Google with terms closely related to the titles and frequently used phrases on [an advertiser's] website" Google Ads uses those titles and phrases "to select a landing page from [their] website and generate a . . . headline" for their ad.[180] In one of the

173. Curtis & Platts, *supra* note 8.

174. *Id.*; Markus Rouvinen, *Trademark Infringement and Google PLA Ads— Lessons from "Ortlieb"?*, IPKAT (Jan. 7, 2020), https://ipkitten.blogspot.com/2020/01/trademark-infringement-and-google-pla.html.

175. *See* 15 U.S.C. § 1125; Rouvinen, *supra* note 174.

176. Rouvinen, *supra* note 174 (PLAs are "displayed at the top of the search results page, consist of a product image and price, together with minimal text").

177. *See, e.g.*, *Multi Time Mach., Inc. v. Amazon.com, Inc.*, 804 F.3d 930, 938-39 (9th Cir. 2015); *Milo & Gabby, LLC v. Amazon.com, Inc.*, No. C13-1932RSM, 2015 U.S. Dist. LEXIS 92890, 2015 WL 4394673, at *6 (W.D. Wash. July 16, 2015).

178. Rouvinen, *supra* note 174 (emphasis added).

179. *About Dynamic Search Ads*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/2471185?hl=en (last visited Apr. 13, 2025).

180. *Id.*

first cases of its kind globally, the Austrian Supreme Court recently ruled in favor of a trademark owner whose registered mark was unwittingly incorporated into a competitor's search advertisements using Google®'s Dynamic Search Ad feature.[181]

Unlike in true comparative advertising, which is permitted under the Lanham Act,[182] the AI-generated ad and search features discussed do not always disclose or clearly indicate to the consumer that what is being presented is an alternative choice.[183] Such actions that are deemed confusing to purchasers as to the product's "source, identity, or sponsorship" are excluded from the Lanham Act's safe harbor purposes of dilution, false affiliation, and infringement.[184] Even without applying initial interest doctrine,[185] the *Ortlieb* reasoning further permits a finding that the search platform itself could be held liable in addition to the competitor seller.

Building on these considerations, several key takeaways emerge. First, AI providers are generally not held liable for trademark infringement if they act as neutral intermediaries. However, they may lose this protection if they are actively involved in selecting or manipulating search results or advertisements using trademarked terms. Second, courts may begin to factor in consumer conditioning in infringement cases, recognizing that habitual AI-driven recommendations linking certain brands with specific products could result in liability if competitors exploit these conditioned expectations. Finally, the rise of generative AI advertising tools, which automatically create ads by extracting keywords from websites, presents new risks of infringement, dilution, or false association. The legal boundaries of these tools under U.S. trademark law have yet to be clearly defined. These developments suggest that AI-driven advertising and search systems could challenge current liability frameworks under the Lanham Act, particularly when AI blurs brand identities, misleads consumers, or facilitates unauthorized brand associations.

181. *See generally* Oberster Gerichtshof [OGH] [Supreme Court] Nov. 22, 2022, 4 Ob 134/22t (Austria) (finding defendant advertiser was liable for the content displayed in the ad, despite the infringement occurring "automatically" without specifying that such content should appear).

182. 15 U.S.C. § 1125(a) (stating that fair use of a famous mark by another in comparative commercial advertising is not actionable under the Lanham Act).

183. *See supra* Part IV discussing the asymmetrical information and decision-making imbalances between AI agent and consumer.

184. Cenegenics, LLC v. Costagenics, No. 20-cv-1209-WQH-WVG, 2021 U.S. Dist. LEXIS 58299, at *14 (S.D. Cal. Mar. 25, 2021) (quoting SSP Agric. Equip., Inc. v. Orchard-Rite Ltd., 592 F.2d 1096, 1103 (9th Cir. 1979)).

185. *See supra* Part VI discussing initial interest confusion.

CONCLUSION

Although the constantly adapting nature of AI makes bright-line rules difficult to formulate, AI's rapidly expanding commercial presence and capabilities necessitate greater scrutiny under trademark law. The growth of multi-modal and query-less search and development of a predominantly predictive retail model pose novel issues not addressed in early keyword and initial interest jurisprudence.[186] The convergence between AI and human decision-making in the commercial context has triggered seismic shifts in consumer behavior and marketplace mechanisms, the sum of which raise important considerations for trademark law.

Use cases of these technologies are no longer novel fact patterns or aberrations in an otherwise conventional retail model.[187] Thus, the algorithmic marketplace's resultant changes warrant statutory clarity and a flexible jurisprudential approach that considers AI's function in a potential or completed transaction, as well as the function of marks within AI algorithms. The Act amendments proposed here[188] aim to provide clarity and specificity in distinguishing between traditional consumers and those whose consumption patterns are heavily influenced or entirely facilitated by AI intermediaries—because the identity of the purchaser may become dispositive in how and what standards should be applied in analyzing the commercial impressions given to them. Furthermore, initial interest doctrine offers a promising lens through which courts can consider the various 'actions' of AI intermediaries that influence online commercial environments.[189] The Lanham Act's legislative purpose necessitates that the concept of the average consumer must shift according to evolving commercial contexts.[190] Given the reduced human involvement in and control over transactions in the algorithmic marketplace,[191] an adaptable conception of the average consumer will be critical if it is to enjoy continued applicability to the "artificially intelligent" consumer.

186. *See supra* Parts III, IV.

187. *See supra* notes 120, 123, 127–29, 132 and accompanying text.

188. *See infra* Appendix; *supra* Part V.

189. *See supra* Part VI.

190. "[A] court that seeks to discern confusion without regard to the marketplace frustrates . . . Congress's intent." Louis Vuitton Malletier v. Burlington Coat Factory Warehouse Corp., 426 F.3d 532, 539 (2d Cir. 2005) (discussing the "need for a contextual analysis"). The Act "requires a court to analyze [use] in light [of how] the marks are actually [used] in their purchasing context." *Id.* at 538 (citing Fun-Damental Too, Ltd. v. Gemmy Indus. Corp., 111 F.3d 993, 1004 (2d Cir. 1997)).

191. *See supra* Part IV.

APPENDIX

For purposes of simplification, this Appendix identifies this Article's proposed amendments and additions to the Lanham Act discussed in Part V.

15 U.S.C. § 1127:

- The term "consumer" refers to any individual or entity, human or machine, that accesses, processes, and acts upon commercial information in the context of purchasing goods or services.

- The term "machine" refers to current and future technology, digital or otherwise designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments.

- The term "use in commerce" means the bona fide use of a mark in the ordinary course of trade, and not made merely to reserve a right in a mark. For purposes of this chapter, a mark shall be deemed to be in use in commerce—

    (1) on goods when—

        (A) it is used or displayed in the sale or advertising of a good, or placed in any manner on the goods or their containers or the displays associated therewith or on the tags or labels affixed thereto, or if the nature of the goods makes such placement impracticable, then on documents associated with the goods or their sale or otherwise integrated into digital interfaces, and

        . . . .

    (2) on services when it is used, displayed, or otherwise digitally integrated in the sale or advertising of services . . . .

15 U.S.C. § 1125(a):

(1) Any person, or machine, who, on or in connection with any goods or services, or any container for goods, uses in commerce any word, term, name, symbol, or device, or any combination thereof, or any false designation of origin, false or misleading description of fact, or false or misleading representation of fact, which—

(A) is likely to cause confusion, or to cause mistake, or to deceive as to the affiliation, connection, or association of such person with another person, or as to the origin, sponsorship, or approval of his or her goods, services, or commercial activities by another person, or machine acting upon commercial information in the context of purchasing goods or services . . . .