



Trademark Functions in the Age of Voice Shopping: A Search Costs Perspective

Vera Sevastianova

Department of Accounting and Commercial Law

Hanken School of Economics

Helsinki

2020

HANKEN SCHOOL OF ECONOMICS

Department of: Accounting and Commercial Law	Type of work: Master's thesis
Author and Student number: Vera Sevastianova, 182320	Date: 29 April 2020
Title of thesis: Trademark Functions in the Age of Voice Shopping: A Search Costs Perspective	
Abstract: <p>The thesis is devoted to the European Union trademark law and its trademark function theory, developed by the Court of Justice. With this theory, the list of functions that trademarks perform was prolonged – it now includes not only the origin function, but also that of guaranteeing quality as well as communication, investment, and advertising functions. The rise of the function theory happened during the growth of keyword advertising predominantly through search engines. It was the time of the development of electronic commerce. Today, a new type of commerce is on the rise – voice shopping with the help of voice assistants, like Amazon's Alexa or Google Assistant. So, the aim of the thesis became to look whether and how the EU trademark function theory will be challenged in the voice commerce era; the search costs perspective was chosen as the basis to approach trademark functions.</p> <p>To answer the question, it was decided to generate several voice shopping scenarios for analysis. To do that, trends and forecasts for voice commerce were presented. As for the thesis substance, the doctrinal method, historical inquiry, and the search costs theory from the economic analysis of law were utilized. Literature and other sources of information were determined by these methods.</p> <p>In the result, voice shopping scenarios confirmed that the function theory is full of flaws and that it shall be balanced by more extensively considering interests of consumers and other market players. In regard to search costs, if their reduction for consumers is more noticeable with no trademark rights than because of protecting some trademark function, that should be taken into account. General costs reduction will guarantee information availability and fair competition in the market. The thesis concluded that voice shopping is a challenge to trademark law in many respects.</p>	
Keywords: Trademark functions, search costs, voice shopping, European Union	

CONTENTS

1	INTRODUCTION.....	1
1.1	Research Question.....	1
1.2	Thesis Structure.....	3
1.3	Research Methodology	3
2	WHAT IS VOICE SHOPPING?	7
2.1	Role of Voice Assistants.....	7
2.2	Rise of Voice Commerce	10
2.3	Voice Shopping and Trademarks.....	15
3	EU TRADEMARK FUNCTION THEORY	16
3.1	Legal Norms Behind the Function Theory	16
3.2	Before <i>Arsenal</i>	18
3.3	Emergence of the Function Theory	21
3.4	Keyword Advertising Era.....	26
3.5	Solidifying the Function Theory	33
3.6	Trademark Function Theory Settled	35
4	SEARCH COSTS THEORY OF TRADEMARK LAW	39
4.1	Search Costs and Types of Consumer Confusion	39
4.2	Description of the Search Costs Theory.....	40
4.3	Criticism of the Search Costs Theory.....	47
4.4	Search Costs and Trademark Functions.....	52
5	TRADEMARKS IN THE VOICE SHOPPING SCENARIOS	55
5.1	Consumer Decision-Making in Voice Shopping.....	55
5.2	General Comments on Scenarios.....	59
5.3	Exact Match Scenario	60
5.4	Broad Match Scenarios.....	66
5.5	Reference Brand and Advertising Scenarios	69
5.6	Voice Shopping and Reduced Trademark Functions	74
6	CONCLUSION	76
	REFERENCES	79

ABBREVIATIONS

AI	Artificial intelligence
CJEU	Court of Justice of the European Union
Comparative Advertising Directive	Directive 2006/114/EC of the European Parliament and of the Council of 12 December 2006 concerning misleading and comparative advertising
Directive 2008	Directive 2008/95/EC of the European Parliament and of the Council of 22 October 2008 to approximate the laws of the Member States relating to trade marks
Directive 2015	Directive 2015/2436 of the European Parliament and of the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks
E-commerce	Electronic commerce
EEA	European Economic Area
EU	European Union
First Directive 1988	First Council Directive 89/104/EEC of 21 December 1988 to approximate the laws of the Member States relating to trade marks
Member State	Member State of the European Union
Regulation 1993	Council Regulation (EC) No 40/94 of 20 December 1993 on the Community trade mark
Regulation 2009	Council Regulation (EC) No 207/2009 of 26 February 2009 on the Community trade mark
Regulation 2017	Regulation 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark
SEO	Search engine optimization
TRIPS Agreement	Agreement on Trade-Related Aspects of Intellectual Property Rights of 15 April 1994
US	United States
V-commerce	Voice commerce

1 INTRODUCTION

1.1 Research Question

According to the Agreement on Trade-Related Aspects of Intellectual Property Rights of 15 April 1994 (TRIPS Agreement), a trademark¹ can be “*any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings*”². This is the origin function of trademarks, and it is the key one for trademark laws around the world³. In the European Union (EU), the origin function is fixed in the legislation. However, the Court of Justice of the EU (CJEU) introduced other trademark functions in its case law – the function of guaranteeing quality as well as communication, advertising, and investment functions. This list was left non-exhaustive, and definitions were provided to only some of the functions. Despite all that, a new term was coined for the described developments – trademark function theory. The theory is criticized, but one cannot avoid it today: checking if any of the functions are affected is required in various trademark infringement cases.

“*The consumer, we are led to believe, is the measure of all things in trademark law*”⁴. Indeed, if we think about who trademarks are directed at, we will come up with the obvious answer: consumers, or people. People hear and see trademarks regularly: on packages of goods in a supermarket or on an online marketplace, on business cards or websites of service providers, in advertisements on all possible mediums, including radio and highway posters (though there are also marks, affecting human smelling, tasting, and touching⁵). Trademarks accompany goods/services in such ways that potential buyers have the opportunity to perceive them and make a buying decision later on. In spite of the history of some trademark laws that started as protection of

¹ The European Union legislator uses the term “trade mark,” as in the British spelling, while the World Intellectual Property Organization uses the American spelling version, “trademark.” In this thesis, “trademark” will be used, while “trade mark” will appear, i.a., in quotes from the European Union legislation and case law.

² Agreement on Trade-Related Aspects of Intellectual Property Rights of 15 April 1994. [online] Available at: https://www.wto.org/english/docs_e/legal_e/31bis_trips_04_e.htm [Accessed 17 April 2020].

³ Dinwoodie, G.B. and Gangjee, D.S., 2014. The Image of the Consumer in European Trade Mark Law. *Oxford Legal Studies Research Paper*, [online] 83/2014. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2518986 [Accessed 17 April 2020].

⁴ Beebe, B., 2005. Search and Persuasion in Trademark Law. *Michigan Law Review*, [online] 103(8). <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1577&context=mlr> [Accessed 17 April 2020].

⁵ Calboli, I. and Senftleben, M., eds. 2018. *The Protection of Non-Traditional Trademarks*. [e-book] Oxford: Oxford University Press. Available at: <https://global.oup.com/academic/product/the-protection-of-non-traditional-trademarks-9780198826576?cc=ru&lang=en&> [Accessed 17 April 2020].

producers⁶ and the current trend of the so-called propertization of trademarks by their right holders⁷, without consumers, there would be no trademarks. According to the economic analysis of law, it is search costs of consumers that trademarks help reduce.

The previous challenge to trademark law, which pushed the development of the EU function theory, was keyword advertising. Artificial intelligence (AI) might pose a new challenge. AI is a scientific discipline, aimed at creating autonomous and adaptive systems, including programs and devices, that imitate intelligent human behavior⁸. In the AI age, machines substitute more and more actions, performed by people. A human being still stands behind the machines and still makes the majority of decisions, but the shift has begun. Even shopping is becoming automated with many decisions being transferred from consumers to various AI-based tools. Voice shopping with the help of virtual AI-led voice assistants is currently on the rise around the world.

In the times of technological changes, problematical issues, like the trademark function theory, might appear even more questionable. Powered by the speech recognition and natural language processing tools as well as big data, voice shopping may provide consumers with perfect buying options, generated by the consumers' need for a product with particular characteristics, irrespective of any mark on it. With such shopping, marks may appear unnecessary – the origin function will not work, and other functions will be irrelevant. Less turbulent scenarios might also reveal failures of the function theory or prove its vitality. Already existing criticism of the theory may be confirmed or disproved. Anyway, one more testing is never redundant in verifying a theory.

Thus, the research question in the thesis is whether and how the EU trademark function theory will be affected by voice shopping. Voice shopping is understood as the purchasing process, conducted exclusively with the help of such personal voice

⁶ McKenna, M.P., 2007. The Normative Foundations of Trademark Law. *Notre Dame Law Review*, [online] 82(5). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=889162 [Accessed 17 April 2020].

⁷ Dornis, T.W., 2017. *Trademark and Unfair Competition Conflicts*. [e-book] Cambridge: Cambridge University Press. Available at: <https://www.cambridge.org/core/books/trademark-and-unfair-competition-conflicts/0291FCB8187B335E5A11E501202FADA8> [Accessed 17 April 2020].

⁸ AI does not have an accepted definition. The definition above was generated by the thesis' author as the result of the Elements of AI course assignment (University of Helsinki and Reaktor, n.d. *Elements of AI*. [online] Available at: <https://course.elementsofai.com> [Accessed 17 April 2020]). It is important to add that AI systems might operate as “black boxes” due to the fact that they may generate results without explaining them, so it will be complicated to detect wrong or unethical decisions (Deloitte, 2019. *Managing the Black Box of Artificial Intelligence (AI)*. [online] Available at: <https://www2.deloitte.com/us/en/pages/advisory/articles/black-box-artificial-intelligence.html> [Accessed 17 April 2020]).

assistants as Amazon's Alexa or Google Assistant. The question will be analyzed through the prism of the consumer search costs theory as a common denominator to approach each function. In the age of AI, the process of searching that previously required many efforts might be done in seconds or faster, so the search costs theory seems especially applicable – will it be trademarks that reduce consumer search costs, or some other tools will work to minimize those costs? Hence, the EU trademark function theory, search costs theory of trademark law, and shopping through voice assistants are the three blocks that get united in this thesis, with a consumer in mind.

1.2 Thesis Structure

While Chapter 1 includes Introduction, in Chapter 2, it will be required to define voice shopping and its current trends, in order to be able to choose several already happening as well as possible future voice shopping scenarios to be analyzed further in the thesis.

As to the substance of the thesis, it is necessary to introduce the EU trademark function theory. The theory was not born in a day and is highly criticized today, so not only the latest developments of the theory are important, but also its historical roots. Description of this theme will be presented in Chapter 3.

Consumers are in the center of trademark law, and one of the most powerful trademark law theories discusses search costs on the side of consumers. Chapter 4 will explain ideas and approaches of the search costs theorists to trademark law and its concepts.

In Chapter 5, different voice shopping scenarios will be analyzed, and the trademark function theory will be applied with simultaneously reflecting on consumer search costs. Since the function theory was actively built during the keyword advertising era, in which behavior of the main market players (advertisers of goods/services, search engines as advertising platforms, and consumers) was important, it would be useful to try to predict how interactions of the listed parties might change and how the function theory might be challenged in the voice shopping era. Consumer search costs will be a litmus test to find justification for protecting different trademark functions.

Chapter 6 will conclude the thesis with some final thoughts on the raised subject.

1.3 Research Methodology

As for methods, collection of data, and justification thereof, in Chapter 2 on voice shopping, there will be no particular method of research utilized. The objective

description of the surrounding reality will be made with the aim to have a thorough understanding of the field under study and generate plausible voice shopping scenarios.

In describing trends in voice shopping and providing forecasts, market analytics and news articles will be used. Attention will be paid to publications of the voice shopping analytics house Voicebot.ai as well as consulting and legal professionals (OC&C, PWC, Deloitte, as well as Baker McKenzie in general and HGF's lawyers Lee Curtis and Rachel Platts in particular). The relevant business and technology sources will include Harvard Business Review, Forbes, Medium, Business Insider, etc. Concerning the role of AI, works of computer scientists and marketing scholars will be taken into account (e.g., *"AI for Marketing and Product Innovation"* by A.K. Pradeep et al.). Publications by Alex Mari, a marketing scholar from the University of Zurich, are worth giving a special attention, for Mari focuses on the very same issues, as this thesis, but from the marketing perspective. The scholar appeals to study *"relationships among consumers, brands, and retailers,"* because *"[a]s consumers' relationships with [voice assistants] shift from limited influence to steadfast dependency, brands need to understand which elements influence consumer choices"*⁹. The focus of the majority of publications on the market in the United States (US) is justified, because the US is in the *"epicenter of AI"* with huge investments into the AI research both on public and private levels¹⁰.

Then, to get a profound understanding of the trademark function theory, the doctrinal (legal-dogmatic) method will be exploited together with a historical review. The sources of information will be defined by these methods.

Almost each research endeavor in the legal field requires a full description of the current law, which is under analysis. From the legal practitioner's perspective, this state of things is rather obvious, because quite often, a practicing lawyer needs to describe law by collecting it from all kinds of sources: from the basic law of the country and international obligations of the state to laws and subsidiary legislation, as well as courts' practice, through which legal acts obtain interpretation and loopholes get filled.

⁹ Mari, A., 2019. Voice Commerce: Understanding Shopping-Related Voice Assistants and Their Effect on Brands. In: International Media Management Academic Association (IMMAA), *IMMAA Annual Conference*. Qatar, Doha. 04-06 October 2019. [online] Available at: https://www.researchgate.net/publication/336363485_Voice_Commerce_Understanding_shopping-related_voice_assistants_and_their_effect_on_brands [Accessed 17 April 2020].

¹⁰ Knight, W., 2017. The U.S. Leads in Artificial Intelligence, But for How Long? *MIT Technology Review*, [online] 06 December. Available at: <https://www.technologyreview.com/2017/12/06/3775/the-us-leads-in-artificial-intelligence-but-for-how-long> [Accessed 17 April 2020].

Jan Smits stressed that the doctrinal approach “*is in many ways the necessary prerequisite for undertaking any other type of analysis of law*”¹¹. While any doctrinalist positions him/herself inside the legal system which is at the same time the object of the study, he/she tries to systemize the present law in order to describe, prescribe, or justify it. Smits argued that “[*o*]nly doctrine can grasp the law’s complexity, not for nuance’s own sake, but because it helps to understand and solve practical problems” (descriptive function); at the same time, “*doctrine is a source of information on how to behave*” (prescriptive function); as for the justifying function, “*the validity of norms can be justified by reference to [the legal] system*”.¹²

With this method, current trademark-related legal acts in the EU will be described. Since the law itself also covers court practice – and courts interpret legal provisions, – looking at case law will be of significance (especially because the function theory was developed in the CJEU cases). However, to understand case law better, it is worth analyzing related documents, such as Advocate Generals’ opinions. Also, understanding the doctrine, as a body of teachings, is required; it means reviewing works by such researchers on the EU trademark law as Annette Kur, Martin Senftleben, Jens Schovsbo, Ilanah Simon Fhima, Dev Gangjee, Po Jen Yap, Luis Porangaba, etc.

Daniel Boorstin wrote that “[*to*] give form to the chaos of the past is never easy, and sometimes seems impossible”¹³. But the historical inquiry can be utilized to approach present conditions with some solutions or perspectives from the past¹⁴. The method can be used to reveal contemporary biases¹⁵ or clarify the modern-day concepts¹⁶. The historical perspective is needed in this thesis to describe the earlier days of the function

¹¹ Smits, J.M., 2015. What is Legal Doctrine? On the Aims and Methods of Legal-Dogmatic Research. *Maastricht European Private Law Institute Working Paper*, [online] 2015/06. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2644088 [Accessed 17 April 2020].

¹² Ibid.

¹³ Boorstin, D.J., 1941. Tradition and Method in Legal History. *Harvard Law Review*, [online] 54(3). Available at: <https://www.jstor.org/stable/1334034> [Accessed 17 April 2020].

¹⁴ See, e.g., Bently, L.A.F., 2007. From Communication to Thing: Historical Aspects of Conceptualization of Trade Marks as Property. *U Iowa Legal Studies Research Paper*, [online] 07-31. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1034177 [Accessed 17 April 2020]. The author dedicated the whole article to “*historical aspects of the conceptualization of [trademarks] as property*.” The reason for undertaking such research is that trademarks are currently reconsidered and more frequently characterized as property – but it is in the second half of the 19th century when “*English law witnessed the [conceptualization] of trade mark protection as property*.” In his work, Bently looked not only at the old case law and legal acts, but also at the drafting history of those acts as well as works by commentators from earlier times.

¹⁵ See, e.g., Hughes, J., 2009. A Short History of “Intellectual Property” in Relation to Copyright. *Cardozo Legal Studies Research Paper*, [online] 265. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1432860 [Accessed 17 April 2020].

¹⁶ See, e.g., Dornis (chapters on the history of civil law and common law).

theory. The theory was built in a line of cases over time, in which prior legal acts were interpreted. Therefore, it is necessary to look at older legislation and case law.

Additionally, a look at the consumer search costs theory of trademark law is not a desire, but an obligation, because trademark law has always been related to consumers. For instance, in accordance with Recital 31 of the Directive 2015, trademark's purpose is "*distinguishing goods or services and allowing consumers to make informed choices*"¹⁷, and the concept of consumer confusion is the key one in trademark law (see Article 10(2) of the Directive 2015, Article 16(1) of the TRIPS Agreement).

The search costs theory is the prevailing approach to trademark law¹⁸. As William Landes and Richard Posner from the University of Chicago Law School noted, "[t]he value of a trademark is the saving in search costs made possible by the information or reputation that the trademark conveys or embodies about the brand"¹⁹. Besides these "founding fathers" of the theory, works by Stacey Dogan, Mark Lemley, Barton Beebe, etc. will be studied. There is criticism of the theory, and through it the theory can be studied more deeply – works by Mark McKenna, Ariel Katz, Mark Janis, Graeme Dinwoodie, Rebecca Tushnet, etc. will be referred to. Search costs theorists often come from the US – it explains the focus on the US scholars in exploring the theory.

Teruo Minemura underlined that the legal-dogmatic method determines the objective contours of the law and does not reveal what was planned when implementing that law²⁰. Therefore, the combination of legal doctrine, historical inquiry, and search costs perspective will help understand, apply, and adjust the trademark function theory.

Concerning limitations, this thesis will not focus on any competition-related issues, though voice assistants do pose threats to market actors. Besides, there will be no comparative study between the EU and some other jurisdiction.

¹⁷ Directive 2015/2436 of the European Parliament and of the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015L2436> [Accessed 17 April 2020].

¹⁸ McKenna, M.P., 2012. A Consumer-Decision Making Theory in Trademark Law. *Virginia Law Review*, [online] 98. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1988521 [Accessed 17 April 2020].

¹⁹ Landes, W.M. and Posner, R., 1987. Trademark Law: An Economic Perspective. *The Journal of Law and Economics*, [online] 30(2). Available at: <https://www.jstor.org/stable/725498> [Accessed 17 April 2020].

²⁰ Minemura, T., 1970. Dogmatic Legal Science and Sociology of Law. *Archives for Philosophy of Law and Social Philosophy*, [online] 56(3). Available at: <https://www.jstor.org/stable/23678464> [Accessed 17 April 2020].

2 WHAT IS VOICE SHOPPING?

2.1 Role of Voice Assistants

Voice shopping is very new and underdeveloped²¹. It is a process of “*placing orders online*”²² through voice assistants – “*conversational agents that perform tasks with or for an individual, whether of functional or social nature and own the ability to self-improve their understanding of the interlocutor and context*”²³. Assistants are software, integrated into devices, with the AI-based tools involved (e.g., automatic speech recognition, text-to-speech synthesis, natural language understanding); they mimic humans, use data, and constantly learn²⁴. They are restricted by the naturally limited capability of humans to comprehend oral information.

The achievements of AI can be introduced where there are repetitive tasks²⁵. Voice assistants are no exclusion: with them, one can set an alarm, check the weather forecast, turn on music. The more developed assistants become, the more sophisticated become their tasks. Already now, the list of functions of some assistants includes voice shopping, from initiating a search request to placing and paying for the order.

This field is extremely fast changing. The leading voice assistants for broad audiences once were the Big Four – Amazon’s Alexa, Google Assistant, Apple’s Siri, and Microsoft’s Cortana²⁶, but today the market differs. While Alexa and Google Assistant retain their top positions (e.g., within Amazon Echo and Google Home/Nest smart speakers), Siri – together with Samsung’s Bixby – is quite far behind²⁷. Windows

²¹ Kostova, O., 2019. Amazon Alexa Skills and Google Assistant Actions: The Future of Search. *Medium*, [online] 29 January. Available at: <https://medium.com/@odolenakostova/amazon-alexa-skills-and-google-assistant-actions-the-future-of-search-531573793643> [Accessed 17 April 2020].

²² CBInsights, 2019. *Is Voice Shopping Finally Becoming Mainstream?* [online] Available at: <https://www.cbinsights.com/research/voice-shopping> [Accessed 17 April 2020].

²³ Mari. Voice Commerce: Understanding Shopping-Related Voice Assistants and Their Effect on Brands.

²⁴ Ibid. Mari collected different terms, used to describe this software in research literature: smart speaker, AI assistant, intelligent personal assistant, personal digital assistant, voice-controlled smart assistant, voice-activated intelligent assistant, conversational agent.

²⁵ Lee, K.F., 2019. AI’s Real Impact? Freeing Us from the Tyranny of Repetitive Tasks. *Wired*, [online] 12 December. Available at: <https://www.wired.co.uk/article/artificial-intelligence-repetitive-tasks> [Accessed 17 April 2020].

²⁶ Krupansky, J., 2017. What Is an Intelligent Digital Assistant? *Medium*, [online] 30 November. Available at: <https://medium.com/@jackkrupansky/what-is-an-intelligent-digital-assistant-3f601a4bb1f2> [Accessed 17 April 2020].

²⁷ Voicebot.ai, 2019. *The State of Voice Assistants as a Marketing Channel*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

announced that it would orient Cortana for business use cases²⁸. Additionally, Chinese assistants are quite noticeable²⁹.

Alexa and Google Assistant, as the market leaders, are large technological companies. Their assistants are becoming important voice platforms for which other companies, including retailers and merchants, can develop their voice skills (for Alexa) and actions (for Google Assistant). These skills/actions are like applications that users got used to on their devices, e.g., on smartphones via Google Play or Apple's App Store³⁰. Alexa or Google Assistant will switch to third parties' skills/actions upon the algorithm's instruction. Retailers, merchants, and other organizations also develop their voice assistants and use them, e.g., on websites, mobile applications, or, as mentioned, in the form of skills/actions within voice platforms (assistants within assistants³¹).

In 2018, Voicebot.ai concluded that the first phase of the voice assistants era with the appearance of Siri on mobile devices in 2011 and later introduction of smart speakers by Amazon and Google is over; the second phase is now underway with integrating assistants across devices: televisions, home appliances, headphones, smart watches, cars, etc.³². Anyway, on the US market, smart speakers' proliferation is almost 25% of the adult population, while due to the widespread ownership of smartphones, "*voice is more prevalent on smartphones than any other surface*"³³. So, smart speakers and smartphones are still the devices with assistants that gain the most attention, and while the use of assistants in general on smartphones is three times higher than on smart speakers, the use on smart speakers is more frequent than on smartphones³⁴ (speakers are used with voice). Although voice assistants can be utilized with a screen (e.g., on a

²⁸ Ibid.

²⁹ Alex Mari, for instance, mentioned Alibaba Tmall Genie, Xiaomi Xiao AI, and Baidu Xiaodu (Mari, A., 2020. The Evolution of Marketing in the Context of Voice Commerce: A Managerial Perspective. In: *HCI Conference 2020*. Denmark, Copenhagen. 19-24 July 2020. [online] Available at: https://www.researchgate.net/publication/339473012_The_Evolution_of_Marketing_in_the_Context_of_Voice_Commerce_A_Managerial_Perspective [Accessed 17 April 2020]).

³⁰ Charlton, A., 2020. What Are Amazon Alexa Skills? *GearBrain*, [online] 27 January. Available at: <https://www.gearbrain.com/what-are-amazon-alexa-skills-2471456002.html> [Accessed 17 April 2020].

³¹ Kinsella, B., 2019. Walmart to Enable Direct Voice Ordering Through Google Assistant. *Voicebot.ai*, [online] 02 April. Available at: <https://voicebot.ai/2019/04/02/walmart-to-enable-direct-voice-ordering-through-google-assistant> [Accessed 17 April 2020].

³² Voicebot.ai, 2018. *Voice Assistant Consumer Adoption Report*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

³³ Ibid.

³⁴ Voicebot.ai, 2018. *Voice Shopping Consumer Adoption Report*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

smartphone or with a smart display³⁵), pure voice-assisted experience will be in focus below.

The use of voice assistants to perform tasks, including searching online for information on goods/services, might be very convenient for people when their hands are busy with cooking, holding a child, driving, exercising, and so on. This convenience cannot but lead to the increased use of voice assistants. In the middle of July 2019, Voicebot.ai discovered that “*nearly 60% of U.S. adults say they have used voice search and 47% expect to increase usage this year [...] The scale and frequency of voice search suggests it will be an increasingly important (and urgent) trend for marketers to address*”³⁶. Marketing professionals point out that there is a challenge of staying effectively connected with consumers today³⁷ – there is a new actor, the voice assistant that stands between consumers and marketers, limiting connectivity between them.

Once search engines had become the key channel for searching information on goods/services, sellers focused their marketing budgets on them. In the US, search advertising (including with keywords) accounts for 45% of total Internet advertising revenue³⁸. Google controls 92% of the search engine market worldwide³⁹. Given the possibility to turn on the microphone while searching on Google, one might think that in the voice era, marketers can continue investing into search advertising with minor adjustments: they can use colloquial phrases and conversational words, get to the Google snippets, have developed frequently asked questions pages with short answers,

³⁵ Google, n.d. *Smart Displays with the Google Assistant*. [online] Available at: <https://assistant.google.com/platforms/displays> [Accessed 17 April 2020].

³⁶ Voicebot.ai, 2019. *Voice Assistant SEO Report for Brands*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

³⁷ Pradeep, A.K., Appel, A. and Sthanunathan, S., 2018. *AI for Marketing and Product Innovation: Powerful New Tools for Predicting Trends, Connecting with Customers, and Closing Sales*. [e-book] Hoboken: John Wiley and Sons. Available at: <https://hanken.finna.fi/Record/hanna.728105> [Accessed 17 April 2020].

³⁸ PWC, 2019. *IAB Internet Advertising Revenue Report*. [online] Available at: <https://www.iab.com/wp-content/uploads/2019/05/Full-Year-2018-IAB-Internet-Advertising-Revenue-Report.pdf> [Accessed 17 April 2020].

³⁹ StatCounter, 2020. *Search Engine Market Share Worldwide*. [online] Available at: <https://gs.statcounter.com/search-engine-market-share> [Accessed 17 April 2020].

provide replies to questions with “near me” words⁴⁰. All these techniques indeed constitute the voice search engine optimization (SEO)⁴¹.

Yet, voice assistant search is different from just voice search, despite the fact that, for example, Alexa uses the Bing search engine and Google Assistant uses Google⁴². It is crucial to understand the difference, because people will in many cases use the voice assistant even if a simple voice search in Google would be enough – “[w]hy would users go to a web page or text-based app and select a microphone when the voice assistant often requires no added steps?”⁴³. Voice assistants use different algorithms: answers can come from, e.g., Wikipedia, merchants, other users, and not from the traditional knowledge database, like that in Google (called the search knowledge graph):

“As voice assistant optimized content increases, the traditional web search knowledge graphs will be consulted less frequently. When you combine this change with the rising use of voice assistants for search, marketers are facing a significant change in how they optimize for search results. This is doubly important because search engine marketing (SEM) which many people know as Google AdWords is severely limited through voice assistants, and in most cases not present at all today”⁴⁴.

Provided that assistants generate only a limited number of orally pronounced results (human memory is limited in this regard), marketers will have to strive more to be in those one to three listings. Voice is becoming a new user interface – controlling it and the data, generated by devices that use it, becomes a critical issue for market actors⁴⁵.

2.2 Rise of Voice Commerce

When using voice assistants becomes a routine for regular tasks, there is no reason why not to try a voice-shopping experience. Users started doing it already. Marketing

⁴⁰ Rauthan, H., 2019. Voice Search Optimization: 7 Ready-to-Use SEO Strategies to Rank Better. *Semrush*, [online] 16 August. Available at: <https://www.semrush.com/blog/voice-search-optimization-7-seo-strategies-to-rank-better> [Accessed 17 April 2020].

⁴¹ SEO is used “to draw the greatest amount of traffic possible to a website by bringing it to the top of a search engine’s results;” using keywords is one of the SEO methods (Investopedia.com, 2019. *SEO*. [online] Available at: <https://www.investopedia.com/terms/s/seo-search-engine-optimization.asp> [Accessed 17 April 2020]).

⁴² Surati, S., 2019. What Is the Difference Between Voice Search and Voice Assistants? *WhetStone*, [online] 30 October. Available at: <https://www.whetstonetechnologies.io/post/what-is-the-difference-between-voice-search-and-voice-assistants> [Accessed 17 April 2020].

⁴³ Voicebot.ai. *Voice Assistant SEO Report for Brands*.

⁴⁴ Ibid.

⁴⁵ Deloitte, 2019. *Smart Speakers: Not Just a Pretty Voice*. [online] Available at: https://www2.deloitte.com/content/dam/Deloitte/za/Documents/Consumer_Industrial_Products/za_J1_7493_5_Smart_Speakers_Lkd.pdf [Accessed 17 April 2020].

professionals believe that it is not only assistants in general as the new channel for promoting brands, but also voice commerce (v-commerce) in particular that is worth attention⁴⁶. As for the v-commerce value, predictions mention \$40 billion in consumer spending in the US and \$5 billion in the United Kingdom by 2022, or 6% and 3% of all online spending⁴⁷ – “[v]oice commerce is poised to become the third key online channel for shopping, joining web and mobile”⁴⁸.

Already in 2018, in the US, voice shopping began to turn into a habit and took place predominantly on smartphones, followed by personal computers and smart devices, but users with smart speakers were 23% more likely to use voice shopping than those without it; voice shopping was associated with everyday transactions, like household items, apparel, entertainment, music, and movies⁴⁹. PWC noted that “[t]he majority of items purchased are small and quick and are things that someone could buy without necessarily having to see it physically (to determine quality, for example)”⁵⁰.

Deloitte recently described four possible scenarios for voice-assisted shopping in 2030: (i) the new Internet scenario with technological integration of voice assistants into one platform and strong collaboration among market players, widespread predictive and automated shopping, rise of direct sales bypassing retailers, voice-assisted interactions between merchants and their customers, customers’ data fully available, and consumer decision-making done after a filter by voice assistants; (ii) the age of heterogenic alliances scenario with high collaboration but limited integration of voice assistants across technologies, existence of several alliances of retailers and merchants, alliance-specific standards for their voice assistants, and customers’ data available to a particular alliance; (iii) the old Europe scenario with high competition among players and no integration of voice assistants across different technologies (justified by strict laws on data protection and monopolies), as well as multiple voice assistant shopping experiences from different retailers and merchants which makes it difficult for consumers to switch after having chosen the most suitable voice assistant; (iv) the world of aggregators scenario in which “large tech aggregators have emerged and redefined shopping through closed system of voice-assisted interfaces” with high integration of assistants but low collaboration among market players, retailers

⁴⁶ Voicebot.ai. *The State of Voice Assistants as a Marketing Channel*.

⁴⁷ OC&C, 2018. *The Talking Shop: The Rise of Voice Commerce*. [online] Available at: https://www.ocstrategy.com/media/1285/the-talking-shop_uk.pdf [Accessed 17 April 2020].

⁴⁸ Voicebot.ai. *Voice Shopping Consumer Adoption Report*.

⁴⁹ Ibid.

⁵⁰ PWC.

cooperating with a specific aggregator and giving up issues of data and security to it, merchants focusing their marketing efforts on a specific aggregator's assistant, and consumers' being influenced by shopping predictions of the aggregator⁵¹.

It seems like the world of aggregators scenario is underway. Amazon and Google are aggregators that are becoming too important. Amazon is already one of the world's largest retailers⁵² – Alexa has a place to shop. Google is developing its Google Shopping that absorbed Google Express (there, one can buy from stores like Target and Costco)⁵³. With this scale, the voice assistants' owners become key actors in v-commerce. Due to that, merchants are developing voice skills/actions to shift consumers' attention to their own marketplaces. Two interesting examples can be provided. One is with Domino's pizza chain that introduced its Alexa skill to order pizzas – this example is referred to by mass media as a successful one⁵⁴. The other is of more significance. Walmart initially joined Google Express as one of the retailers to buy from but quit the marketplace to develop its voice actions for Google and later Siri – *“Walmart wants control of the voice shopping experience. The Google Express integration ceded that control while also exposing consumers to other retailers [...] This will be an important strategic move for many retailers and brands that want to take advantage of the large user bases aggregated by Google, Apple, and Amazon but still want to express their own unique value to consumers”*⁵⁵. Walmart is trying to disturb the world of aggregators' scenario and retain its share of control over v-commerce.

Thus, it is understandable why voice SEO tips for voice assistants include developing skills/actions for the leading assistants, selling via Amazon or Google Shopping, and even achieving, e.g., the Amazon Choice status⁵⁶.

⁵¹ Deloitte, 2018. *Beyond Touch Glimpse*. [online] Available at: <https://www2.deloitte.com/content/dam/Deloitte/de/Documents/consumer-business/Deloitte-Glimpse%20Beyond%20Touch.pdf> [Accessed 17 April 2020].

⁵² Russell, C., 2020. Who Are the 10 Biggest Retailers in the World? *Forbes*, [online] 09 January. Available at: <https://www.forbes.com/sites/callyrussell/2020/01/09/who-are-the-10-biggest-retailers-in-the-world/#ae154c63802d> [Accessed 17 April 2020].

⁵³ Perez, S., 2019. Google Express Becomes an All-New Google Shopping in Big Revamp. *TechCrunch*, [online] 14 May. Available at: <https://techcrunch.com/2019/05/14/google-express-becomes-an-all-new-google-shopping-in-big-revamp> [Accessed 17 April 2020].

⁵⁴ Joseph, S., 2017. Domino's Is Starting to See Pizza Orders Come Through Amazon Alexa. *Digiday*, [online] 28 September. Available at: <https://digiday.com/marketing/dominos-getting-people-order-pizza-amazon-alexa> [Accessed 17 April 2020].

⁵⁵ Kinsella. Walmart to Enable Direct Voice Ordering Through Google Assistant.

⁵⁶ Voicebot.ai. *Voice Assistant SEO Report for Brands*. Green, D., 2018. Here's What It Means When an Item Is Marked “Amazon's Choice.” *BusinessInsider.fr*, [online] 04 August. Available at: <https://www.businessinsider.com/what-is-amazons-choice-2018-5> [Accessed 17 April 2020].

The new role of assistants, like Alexa and Google Assistant, arises – consumers consult with them as if they were shop assistants that people must have forgotten about in the era of electronic commerce (e-commerce): *[v]oice assistants introduce a proprietary intermediary into all digital consumer interactions*⁵⁷. Since these intermediaries even control marketplaces, they impose their rules on consumers, while trying to address consumers' interests at the same time.

When searching for products with the assistants' help, consumers have already encountered different experiences. With Alexa, in response to a search request with no brand, the Amazon Choice option and then the top search option used to be announced⁵⁸ ("broad match"); in response to a branded search, the closest option was suggested ("exact match"); when purchase history was available, preferred brand was the first in line⁵⁹. As for Google Assistant, *"[w]hen a user does a voice search for a product without mentioning the brand, Google Assistant will select products based on the relevancy of the search query, popularity of the products and the proximity of the store"*⁶⁰. The retailer example can be illustrated by Walmart: *"[I]f a customer says, 'add orange juice to my cart,' we'll make sure to add the specific orange juice the customer buys regularly [...] they'll simply say: 'orange juice' and we'll add the right one"*⁶¹.

Alex Mari highlighted the agency role of voice assistants but noted that it might not be always in favor of consumers, because other parties' interests shall also be taken into account (e.g., possible paid promotions by third parties). The reality is also a challenge for brand-owners with the assistants' role as a new mediator: brands' visibility is decreased (only a few options are pronounced, often with no screen, and the search algorithm is controlled by aggregators), retailers' and even aggregators' private labels are promoted (algorithms fulfil the voice assistant owner's interests⁶²), advertising expenses are on the rise (the voice shelf space is limited, so competition grows).⁶³

⁵⁷ Kinsella, B., 2019. Why Tech Giants Are So Desperate to Provide Your Voice Assistant. *Harvard Business Review*, [online] 07 May. Available at: <https://hbr.org/2019/05/why-tech-giants-are-so-desperate-to-provide-your-voice-assistant> [Accessed 17 April 2020].

⁵⁸ Alook on YouTube, 2019. How to Buy Things with Alexa. *YouTube*, [online] 25 April. Available at: <https://www.youtube.com/watch?v=oMsUZDdXXc4> [Accessed 17 April 2020].

⁵⁹ Mari. The Evolution of Marketing in the Context of Voice Commerce: A Managerial Perspective.

⁶⁰ Kostova.

⁶¹ Schwartz, E.H., 2019. Siri Can Now Order Groceries from Walmart. *Voicebot.ai*, [online] 14 November. Available at: <https://voicebot.ai/2019/11/14/siri-can-now-order-groceries-from-walmart> [Accessed 17 April 2020].

⁶² Cahill, P., 2019. Should Your Company's Voice Strategy Be Based on Platforms Like Alexa? *Harvard Business Review*, [online] 01 May. Available at: <https://hbr.org/2019/05/should-your-companys-voice->

Mari also found out that company managers are concerned with the reduced access to consumer data, impact across product categories (e.g., Alexa commoditize everything), and the ultimate goal of v-commerce to automate purchases⁶⁴. As a response, managers suggest investing into voice SEO, introducing more voice experience for customers, advertising on voice platforms, cooperating with assistants' manufacturers, developing skills/actions for assistants⁶⁵. According to managers, however, when consumers express clear brand preferences, they are less conditioned by the machine behavior⁶⁶.

The industry is changing all the time, and no one can guarantee that in a broad match search Alexa will not suggest buying something that "she" considers, e.g., healthier for its customer, based on medical data from this customer. Anyway, people are shifting from respond-to-desire and curated-offering shopping (traditional online purchases and those based on personalized recommendations, respectively) to coach-behavior and automatic-execution shopping (predictive and automated shopping, respectively)⁶⁷. If the world of aggregators scenario thrives, despite moves like that of Walmart, aggregators will take over all interactions with consumers, and there might be brand lock-ins (with just a couple of pronounced options by Alexa or with a subscription to

[strategy-be-based-on-platforms-like-alexa](#) [Accessed 17 April 2020]. According to the author, "[t]o make matters worse for Duracell, when consumers ask Alexa to 'buy batteries,' they get only one option: AmazonBasics batteries."

⁶³ Mari. Voice Commerce: Understanding Shopping-Related Voice Assistants and Their Effect on Brands. The author noted that "[w]hile functioning as a salesperson, [voice assistants] are redefining relationships among consumers, brands, and retailers [...] Consumer brands feel threatened by the rapid adoption of [voice assistants] as the bargaining power is shifting in favor of [voice assistant] technology owners."

⁶⁴ See, e.g., Agrawal, A., Gans, J. and Goldfarb, A., 2017. How AI Will Change Strategy: A Thought Experiment. *Harvard Business Review*, [online] 03 October. Available at: <https://hbr.org/2017/10/how-ai-will-change-strategy-a-thought-experiment> [Accessed 17 April 2020]. In the article, it is stressed that what providers of voice experience want is automated shopping, so that people buy from them and buy more. Already now, one can subscribe to, let's say, batteries from Amazon, which is willing to change shopping-then-shipping approach to the shipping-then-shopping business model. Predictions about consumers' behavior are not as good as needed to launch the new model now, but the sooner Amazon launches it, the more competitive advantage it can get. Also, the more data to train its voice assistant it receives, the faster this data will help improve predictions.

⁶⁵ Dawar, N., 2018. Marketing in the Age of Alexa. *Harvard Business Review*, [online] May-June. Available at: <https://hbr.org/2018/05/marketing-in-the-age-of-alexa> [Accessed 17 April 2020]. As the author opined, "[b]rands today owe their success to their ability to signal quality and win buyers' loyalty. But in a world of AI platforms, marketers may find that consumers [...] shift their allegiance from trusted brands to a trusted AI assistant [...] We therefore expect the focus of many brands to shift from reinforcing direct relationships with consumers to optimizing their positions on AI platforms."

⁶⁶ Mari. The Evolution of Marketing in the Context of Voice Commerce: A Managerial Perspective.

⁶⁷ Siggelkow, N. and Terwiesch, C., 2019. The Age of Continuous Connection. *Harvard Business Review*, [online] May-June. Available at: <https://hbr.org/2019/05/the-age-of-continuous-connection> [Accessed 17 April 2020].

regularly buy the same product from Amazon) and less product variety available for customers (with a limited voice shelf space)⁶⁸.

2.3 Voice Shopping and Trademarks

As it will be explained below, keyword advertising influenced the EU trademark function theory severely. So, it would be easy to compare keyword advertising and its equivalent in v-commerce. But voice assistant advertising has not been formed yet, and it is hard to tell what conduct by platforms and sellers within the voice shopping framework will most likely constitute a trademark infringement. However, with the help of described peculiarities of v-commerce, voice assistants' role, behavior of market actors, new possibilities for consumers – with all current trends and predictions in mind, – it is possible to generate several voice shopping scenarios for analysis with respect to trademark functions and search costs.

Above, the exact match and broad match types of shopping with the voice assistant were introduced. It is also possible to automate the shopping experience in full or in part. While the exact match scenario might seem identical to a traditional Google search, the voice environment with its characteristics will bring both new limitations and opportunities into the purchasing process. The broad match scenario is even more novel, allowing, i.a., to search on the basis of parameters with no trademarks at all – something that might await us in the future but will definitely cause fewer search costs than in e-commerce, given the power of AI. In these scenarios, as it can be imagined, consumers in their conversations with the machine, may even trust the assistant to the degree that they will not care about the final approval of the search result, proposed by the assistant. These and other related issues, including purely theoretical ones, will be dealt with in the first two groups of scenarios in Chapter 5. The third group will address something that does not exist yet at all – advertising within voice assistants (reflection of the keyword advertising era) and recommending more choices (alternatives) based on a reference brand.

In discussing these scenarios, trademark functions will be approached from how consumer search costs are economized or, on the contrary, increased and what exactly causes that economization or increase – trademarks with their functions or the new shopping architecture. But before that, the function theory needs to be explained.

⁶⁸ Mari. The Evolution of Marketing in the Context of Voice Commerce: A Managerial Perspective.

3 EU TRADEMARK FUNCTION THEORY

3.1 Legal Norms Behind the Function Theory

The function theory was developed in case law on trademark infringement. Before turning to the theory, some definitions need to be provided. Key trademark legislation in the EU consists of the Directive 2015, harmonizing national laws of the Member States, and Regulation 2017 on the EU trademark as a unitary right. The Directive 2015 replaced the Directive 2008, which was in force before the First Directive 1988. The Regulation 2017 was preceded by the Regulation 2009, which substituted the Regulation 1993. Under these laws, infringement cases are divided into those with double identity, likelihood of confusion, and reputable marks. According to Article 10(2)(a)-(c) of the Directive 2015 and Article 9(2)(a)-(c) of the Regulation 2017 (Article 5(1)(a)-(b) and (2) of earlier Directives and Article 9(1)(a)-(c) of earlier Regulations):

“2. Without prejudice to the rights of proprietors acquired before the filing date or the priority date of the registered trade mark [hereinafter – or the EU trade mark (as in the Regulation 2017)], the proprietor of that registered trade mark shall be entitled to prevent all third parties not having his consent from using in the course of trade, in relation to goods or services, any sign where:

(a) the sign is identical with the trade mark and is used in relation to goods or services which are identical with those for which the trade mark is registered;

(b) the sign is identical with, or similar to, the trade mark and is used in relation to goods or services which are identical with, or similar to, the goods or services for which the trade mark is registered, if there exists a likelihood of confusion on the part of the public; the likelihood of confusion includes the likelihood of association between the sign and the trade mark;

(c) the sign is identical with, or similar to, the trade mark irrespective of whether it is used in relation to goods or services which are identical with, similar to, or not similar to, those for which the trade mark is registered, where the latter has a reputation in the Member State [or the Union (as in the Regulation 2017)] and where use of that sign without due cause takes unfair advantage of, or is detrimental to, the distinctive character or the repute of the trade mark”⁶⁹.

⁶⁹ Directive 2015. Also see Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R1001> [Accessed 17 April 2020].

The introductory part of the quoted article already provides for conditions that must be fulfilled to find a trademark infringement: lack of consent of the right holder to use the mark, use in the course of trade, and use in relation to goods and services. Then, the situation in paragraph (a) is referred to as the “double identity” case, because both the mark and goods/services must be identical to find an infringement. As stated in Recital 16 of the Directive 2015 and Recital 11 of the Regulation 2017 (previous acts contained similar statements), trademark protection in the double identity cases shall be “*absolute*”⁷⁰, and according to Article 16(1) of the TRIPS Agreement, to which the EU is a signatory, in double identity, “*a likelihood of confusion shall be presumed*”⁷¹. As for the situation in paragraph (b), it is referred to as the “likelihood of confusion” case, because this likelihood must be established to prove infringement – here, it is not merely presumed. The situation in paragraph (c) can be named as the “trademark with reputation” one, or the anti-dilution provision (in previous Directives – non-obligatory for Member States). In earlier acts, it was mentioned that it concerned situations with non-similar goods/services, but the CJEU in *Davidoff* clarified that the old provision also covered situations with identical and similar goods/services not to limit the protection for reputable marks⁷². It is also worth noting that detriment to trademark’s distinctive character is named blurring or whittling away, detriment to its repute – tarnishment or degradation, and unfair advantage of the distinctive character or the repute of the trademark – free riding or parasitism (here, distinctive character and repute are united)⁷³.

The three scenarios also occur in relation to the trademark registration and invalidation processes. For instance, if there exists an earlier identical mark, registered for identical goods/services, a later sign of a third person cannot be registered as a trademark and, if registered, shall be invalidated, i.e., the double identity rule applies (see Article 5(1)(a)-(b) and (3)(a) of the Directive 2015, Article 8(1)(a)-(b) and 8(5) as well as Article 60(1)(a) of the Regulation 2017; previous acts contained analogous provisions).

There are also provisions, limiting the effects of a trademark (Article 14 of the Directive 2015 and Regulation 2017; Article 6 in previous Directives and Article 12 in previous Regulations). These rules apply to third parties’ using their names or addresses (for natural persons), signs or indications concerning various characteristics of

⁷⁰ Ibid.

⁷¹ TRIPS Agreement.

⁷² CJEU Case C-292/00, *Davidoff & Cie SA and Zino Davidoff SA v. Gofkid Ltd*, [2003], ECR I-00389.

⁷³ CJEU Case C-487/07, *L’Oréal SA, Lancôme parfums et beauté & Cie SNC and Laboratoire Garnier & Cie v. Bellure NV, Malaika Investments Ltd and Starion International Ltd*, [2009], ECR I-05185.

goods/services (in the current acts, these signs or indications also include non-distinctive ones), as well as right holders' trademarks to indicate the purpose of a good/service (e.g., with respect to spare parts and accessories). In today's acts, the latter limitation explicitly includes the possibility to use the proprietor's mark to identify and refer to goods/services as those of the right holder. All these uses shall be in accordance with honest commercial practices to be covered by the listed limitations.

In addition, the EU legislation offers rules on regional trademark exhaustion, according to which there is no trademark infringement if the mark is used for goods that were put on the market (now the European Economic Area, or EEA) by the proprietor or with its consent, unless there are legitimate reasons to prohibit such a use, e.g., if the goods' conditions are affected (Article 15 of the Directive 2015 and Regulation 2017; Article 7 in previous Directives and Article 13 in previous Regulations).

Member States may have national provisions regarding situations of use of a sign *“other than use for the purposes of distinguishing goods or services, where use of that sign without due cause takes unfair advantage of, or is detrimental to, the distinctive character or the repute of the trade mark”*⁷⁴ (Article 10(6) of the Directive 2015; Article 5(5) in previous Directives). Thus, the use requirement for finding an infringement can actually be interpreted as use for the purposes of distinguishing goods/services, i.e., use as a trademark. This requirement was augmented by the CJEU with *“a use liable to affect the functions of the trademark”*⁷⁵, as it will be demonstrated below.

The CJEU case law, analyzed below, mostly relates to the quoted Article 5 of the First Directive 1988 and Article 9 of the Regulation 1993. However, provisions, identical as to their content, shall be understood in the same way, even if they derive from different acts⁷⁶. Moreover, current EU acts contain analogous provisions, so the case law and analysis thereto are relevant to the date.

3.2 Before *Arsenal*

As Annette Kur emphasized, it was in 2002 when the CJEU introduced the *“functions theme”* for the first time – in the *Arsenal* case, though the functions-related debate had

⁷⁴ Directive 2015.

⁷⁵ Peguera, M., 2014. Trademark Functions and Trademark Rights. In: *Intellectual Property Scholars Conference*. United States, Berkeley (CA). 07-08 August 2014. [online] Available at: https://www.law.berkeley.edu/files/Peguera_Miquel_IPSC_paper_2014.pdf [Accessed 17 April 2020].

⁷⁶ CJEU Case C-62/08, *UDV North America Inc v. Brandtraders NV*, [2009], ECR I-01279.

existed since 1960s in some European countries⁷⁷. At the time of *Arsenal*, the First Directive 1988 and Regulation 1993 were in force and there were already previous CJEU judgments from which one could generate functions-related arguments.

Recitals in the First Directive 1988 and Regulation 1993 stipulated that “*the protection afforded by the registered trade mark, the function of which is in particular to guarantee the trade mark as an indication of origin, is absolute in the case of identity between the mark and the sign and goods or services [...] the protection applies also in case of similarity between the mark and the sign and the goods or services*”⁷⁸. These texts also stressed the capability to distinguish “*the goods or services of one undertaking from those of other undertakings*”⁷⁹ as the requirement for any trademark to exist, i.e., distinctive character of a mark⁸⁰ (Article 2 of the First Directive and Article 4 of the Regulation 1993; today – Article 3 of the Directive 2015 and Article 4 of the Regulation 2017). Thus, the origin function was and is still fixed in the EU laws⁸¹.

⁷⁷ Kur, A., 2019. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*. *Max Planck Institute for Innovation and Competition Research Paper*, [online] 19-06. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3425839 [Accessed 17 April 2020]. Indeed, if, on the CJEU website, one searches for case law by limiting the results with only the CJEU judgments, containing the words “trade mark function,” the first judgment that historically includes the word “function” in plural (“functions”) will be *Arsenal*.

⁷⁸ First Council Directive 89/104/EEC of 21 December 1988 to approximate the laws of the Member States relating to trade marks. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31989L0104> [Accessed 17 April 2020]. Council Regulation (EC) No 40/94 of 20 December 1993 on the Community trade mark. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31994R0040> [Accessed 17 April 2020].

⁷⁹ Ibid.

⁸⁰ CJEU Case C-342/97, *Lloyd Schuhfabrik Meyer & Co. GmbH v. Klijsen Handel BV*, [1999], ECR I-03819. As it was stated in the judicial act, “[i]n determining the distinctive character of a mark and, accordingly, in assessing whether it is highly distinctive, the national court must make an overall assessment of the greater or lesser capacity of the mark to identify the goods or services for which it has been registered as coming from a particular undertaking, and thus to distinguish those goods or services from those of other undertakings.”

⁸¹ See, e.g., Senftleben, M., 2011. Trade Mark Protection – A Black Hole in the Intellectual Property Galaxy? *International Review of Intellectual Property and Competition Law*, [online] 42(4). Available at: https://www.researchgate.net/publication/296125824_Trade_Mark_Protection_-_A_Black_Hole_in_the_Intellectual_Property_Galaxy [Accessed 17 April 2020]. Senftleben underlined that “[t]his basic function guarantees market transparency. It ensures fair competition, protects consumers against confusion and contributes to the proper functioning of market economies by allowing consumers to clearly express their preference for a particular product or service.” Interestingly, Advocate General Niilo Jääskinen in his opinion for *L’Oréal v. eBay* mentioned that “[t]he identification function or the function of the trade mark of distinguishing between goods and services is usually not kept apart from the origin function. However, the capacity of a trade mark to distinguish goods and services from other goods or services can also be used for other purposes than to indicate their origin. For example, in the manual of a universal remote control device trade marks can be used to indicate the products that are compatible with the device” (CJEU Case C-324/09, *L’Oréal SA and Others v. eBay International AG and Others*, [2011], ECR I-06011).

The EU legislation allows Member States to have provisions on the use of a sign for purposes other than distinguishing goods/services. So, the origin function can be viewed in the terms of the use requirement in the infringement-related provisions⁸²: a sign is used as a trademark when it fulfills the distinguishing purpose.

Before *Arsenal*, the CJEU had already included references to the origin function and connected it to quality. As far as in 1978, in *Hoffmann-Laroche*, the court stated that

*“the essential function of the trade-mark [...] is to guarantee the identity of the origin of the trade-marked product to the consumer or ultimate user, by enabling him without any possibility of confusion to distinguish that product from products which have another origin. This guarantee of origin means that the consumer or ultimate user can be certain that a trade-marked product which is sold to him has not been subject at a previous stage of marketing to interference by a third person, without the authorization of the proprietor of the trade-mark, such as to affect the original condition of the product”*⁸³.

In *HAG GF* (1990), the CJEU repeated the passage above and added that the trademark rights are *“an essential element in the system of undistorted competition [...] Under such a system, an undertaking must be in a position to keep its customers by virtue of the quality of its products and services, something which is possible only if there are distinctive marks which enable customers to identify those products and services”*⁸⁴. When the mark’s essential function is threatened, consumers will not *“be able to identify for certain the origin of the marked goods and the proprietor of the trade mark could be held responsible for the poor quality of goods for which he was in no way accountable”*⁸⁵.

As confirmed in *Philips*, the essential function was *“clear from the wording and the structure of the various provisions of the [First] Directive [1988, analogous to the Regulation 1993]”*⁸⁶. Thus, by the time of *Arsenal*, it had been established that the mark’s essential function is to guarantee the origin of goods/services, from which

⁸² Yap, P.J., 2009. Essential Function of a Trade Mark: From BMW to O2. *European Intellectual Property Review*, [online] 31(2). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3046292 [Accessed 17 April 2020].

⁸³ CJEU Case C-102/77, *Hoffmann-La Roche & Co. AG v. Centrafarm Vertriebsgesellschaft Pharmazeutischer Erzeugnisse mbH*, [1978], ECR 01139. Similar statements can be found in, e.g., *Centrafarm* (1978) and *Pfizer* (1981).

⁸⁴ CJEU Case C-10/89, *SA CNL-SUCAL NV v. HAG GF AG*, [1990], ECR I-03711.

⁸⁵ *Ibid.*

⁸⁶ CJEU Case C-299/99, *Koninklijke Philips Electronics NV v. Remington Consumer Products Ltd*, [2002], ECR I-05475.

quality-related arguments follow. Identifying origin and demonstrating quality are “*traditional*”⁸⁷ functions, though the quality function was explicitly introduced later⁸⁸.

As for the words “in particular” in the quoted Recitals, they suggest that there are other functions, in distinction to which the origin function exists⁸⁹. Indeed, extended protection for reputable mark suggests that there are other functions that marks may fulfill⁹⁰. One of the definitions of the term “function” is “*the action for which a [...] thing is specially fitted or used or for which a thing exists,*” and “purpose” is given as a synonym⁹¹. So, since trademarks with reputation exist, there must be a purpose for that. They must fulfill some function – it is called by academics the “*goodwill function*”⁹². As Tim Dornis stressed, harmonizing trademark legislation in the EU came into effect in response to scholars’ concerns that there shall be more than one purpose of a trademark⁹³. He referred to the provisions on reputable marks as a response to those concerns and called further extension of trademark functions by the CJEU as “*an implementation of the trademark-as-property protection paradigm*”⁹⁴.

Now, it is the turn to look more thoroughly at how the CJEU explicitly established a list of “new” functions, related to goodwill, and transferred them to regular trademarks.

3.3 Emergence of the Function Theory

It is the double identity provisions that caused the function-related analysis. They covered situations with counterfeits, i.e., identical signs on identical products, not related to right holders. The provisions also concerned the exhaustion cases (parallel import). However, it was not clear whether referential use – situations with using

⁸⁷ Senftleben, M., 2015. Trademark Transactions in EU Law – Refining the Approach to Selective Distribution Networks and National Unfair Competition Law. In: J. de Werra and I. Calboli, eds. 2015. *Law and Practice of Trademark Transactions*. Cheltenham: Edward Elgar Publishing. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2586765 [Accessed 17 April 2020].

⁸⁸ Kur, A., 2014. Trademark Function, Don’t They? CJEU Jurisprudence and Unfair Competition Principles. *Max Planck Institute for Innovation and Competition Research Paper*, [online] 14-05. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401536 [Accessed 17 April 2020].

⁸⁹ Merriam-Webster, n.d. *Particular*. [online] Available at: <https://www.merriam-webster.com/dictionary/in%20particular> [Accessed 17 April 2020].

⁹⁰ Senftleben, M., 2013. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function. *European Intellectual Property Review*, [online] 36(8). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2356772 [Accessed 17 April 2020].

⁹¹ Merriam-Webster, n.d. *Function*. [online] Available at: <https://www.merriam-webster.com/dictionary/function> [Accessed 17 April 2020].

⁹² Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function.

⁹³ Dornis.

⁹⁴ Ibid.

trademarks by third parties to describe the right holder's products – was included into such coverage. In *Silhouette* (1998), a trademark exhaustion case, the CJEU clarified that referential use was also a double identity situation. Similar conclusions were made in *BMW v. Deenik* (1999) and *Gillette v. LA Laboratories* (2005). Still, according to *Hölterhoff* (2002), as Kur stressed, “not all uses of marks referring to the product as originating from the proprietor should fall within the double identity clause; some kind of initial filtering was necessary.”⁹⁵ So, the absolute protection under the double identity provision could not be applied automatically once the identity of signs and goods/services was established. More clarifications came with *Arsenal*.

Matthew Reed, the defendant in *Arsenal* who sold unofficial Arsenal football club merchandise with stating that those products did not mean an affiliation with the right holder, probably did not expect that his case would be so thoroughly studied by lawyers. Still, the case turned to be a historical one. In the judgment of 2002, in which Article 5(1)(a) of the First Directive 1988 on double identity was interpreted, the CJEU referred to, i.a., *Hoffmann-Laroch*, *HAG GF*, and *Philips* and concluded that

*“the exclusive right under Article 5(1)(a) of the Directive was conferred in order to enable the trade mark proprietor to protect his specific interests as proprietor, that is, to ensure that the trade mark can fulfil its functions. The exercise of that right must therefore be reserved to cases in which a third party's use of the sign affects or is liable to affect the functions of the trade mark, in particular its essential function of guaranteeing to consumers the origin of the goods”*⁹⁶.

The court stated that, if a trademark use by the third party “is not liable to cause detriment to any of the functions of that mark”⁹⁷, there can be no double identity infringement. Hence, the mere identity of signs and goods/services with no effect on the origin function is not enough to find an infringement. Advocate General Ruiz-Jarabo Colomer added far-sighted remarks in this case: “I see no reason whatever not to protect those other functions of the trade mark[, i.e., reputation and quality,] and to safeguard only the function of indicating the trade origin”⁹⁸.

The *Arsenal* conclusion was that, if the origin function is affected, the proprietor shall have the right to apply Article 5(1)(a), irrespective of the fact that the use of the sign,

⁹⁵ Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

⁹⁶ CJEU Case C-206/01, *Arsenal Football Club plc v. Matthew Reed*, [2002], ECR I-10273.

⁹⁷ *Ibid.*

⁹⁸ Advocate General's Opinion. *Arsenal*.

identical to trademark, “is perceived as a badge of support for or loyalty or affiliation to the proprietor of the mark”⁹⁹. The court noted that the case was different from *Hölterhoff* with the latter’s “purely descriptive purposes:” in *Arsenal*, there was the use that created “the impression that there is a material link in the course of trade between the goods concerned and the trade mark proprietor”¹⁰⁰ (i.e., use as a mark). From the *Arsenal* case on, the word “function” started being used in plural, e.g., in *Anheuser-Busch* (2004) and *Adam Opel* (2007). The latter deserves more attention.

Adam Opel concerned car models from the third party with the logo, registered as a real car manufacturer’s mark. Interestingly, while *Arsenal* is perceived as a function theory case, *Adam Opel* was met as a dispute with the analysis of the use requirement (the questions was if the third party used the logo as a mark). Luis Porangaba argued that these labels must be shifted¹⁰¹. Before explaining this shift, it is necessary to draw a distinction between the concept of use of a sign as a trademark and trademark functions. If one looks at how Article 5(1) of the First Directive 1993 (or any analogous provision) is constructed, one can see that the use requirement is included into the general part of the article. So, if there is no use as a trademark, “analysis under Article 5(1) is not triggered. Where such use has been established, a finding for infringement will still require that the use complained of is liable to harm any of the functions”¹⁰².

Porangaba opined that it is *Adam Opel* that is the actual breakthrough case on trademark functions¹⁰³. In *Arsenal*, the CJEU basically held that trademark use is the autonomous concept of the EU, and, in the opinion of Po Jen Yap, *Arsenal* meant that Article 5(1) could not be successfully invoked by a trademark proprietor if the alleged infringer did not use the mark to indicate the origin of the infringer’s goods/services, i.e., “non-trade mark use was not infringing”¹⁰⁴. In *Adam Opel*, the court connected the double identity analysis with the essential function¹⁰⁵, and, in doing so, the CJEU did not just follow the confusion analysis abstractly. The court took into account market realities and context: the question was whether consumers would perceive logos on car

⁹⁹ *Arsenal*.

¹⁰⁰ *Ibid*.

¹⁰¹ Porangaba, L.H., 2018. A Contextual Account of the Trade Mark Functions Theory. *Intellectual Property Quarterly*, [online] 230. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3420019 [Accessed 17 April 2020].

¹⁰² *Ibid*.

¹⁰³ *Ibid*.

¹⁰⁴ Yap. On the same use requirement but for Article 5(2) in regard to reputable marks, see *Adidas* (2004).

¹⁰⁵ Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

models as identifying the models themselves and not vehicles, depicted in those models, – the answer was no, so no confusion occurred. The court assimilated “consumer understandings and market practices” under the function theory, not under the use concept¹⁰⁶. These were two merchandise cases, but the court came to a different conclusion in *Arsenal*, without trying to understand consumers¹⁰⁷.

As for the likelihood of confusion cases, they still required that the use of a sign, identical with, or similar to, the registered trademark, affects or is liable to affect the essential function of a trademark. This was held, for instance, in *O2 Holdings* (2008), in which a distinction was made between likelihood of confusion in registration matters and that in infringement scenarios. With respect to Article 5(1) of the First Directive 1988, the court stressed that “the assessment must be limited to the circumstances characterising that use, without there being any need to investigate whether another use of the same sign in different circumstances would also be likely to give rise to a likelihood of confusion”¹⁰⁸. In the words of Porangaba, this consideration of context signified that the CJEU started “placing the average consumer as the centrepiece of trade mark law. The functions theory requires some regard for market realities in that such a consumer be (to some or a large extent) constructed upon the perceptions of actual consumers rather than reduced to a purely notional, hypothetical person”¹⁰⁹.

In 2009, the famous *L’Oréal v. Bellure* case judgment was released in which other functions were listed for the first time. The CJEU interpreted, i.a., Article 5(1)(a) and 5(2) of the First Directive 1988 on double identity and reputable marks, respectively. The court stated that the functions, mentioned in *Arsenal* and later in *Anheuser-Busch* and *Adam Opel*, “include not only the essential function of the trade mark, which is to guarantee to consumers the origin of the goods or services, but also its other functions, in particular that of guaranteeing the quality of the goods or services in question and those of communication, investment or advertising”¹¹⁰. With no comments on what the “new” functions of trademarks actually mean (this fact was criticized by academics¹¹¹) and leaving the list of possible functions as non-exhaustive,

¹⁰⁶ Porangaba.

¹⁰⁷ Ibid. Also see Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

¹⁰⁸ CJEU Case C-533/06, *O2 Holdings Limited and O2 (UK) Limited v. Hutchison 3G UK Limited*, [2008], ECR I-04231.

¹⁰⁹ Porangaba.

¹¹⁰ *L’Oréal v. Bellure*.

¹¹¹ See, e.g., Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function. Also see Kur. Trademark Functions in

the CJEU, nevertheless, concluded that the double identity provision shall apply even if not the essential, but some other function is affected.

According to Martin Senftleben, *L'Oréal v. Bellure* created a trademark that becomes a “black hole”, capable of blocking any communication around it, not only origin-related¹¹². Earlier, only the origin function was protected by the double identity clause. Extended protection was and is granted to marks with reputation; this “brand protection”¹¹³ is offered under specific requirements (proved reputation and established blurring/tarnishment/unfair advantage) with the “due cause” defense tool for the alleged infringer. By granting regular marks with goodwill functions, with no balancing tool as “due cause” involved, the CJEU extended brand protection to all marks with no particular grounds. Hence, such activities as comparative advertising and parodies, crucial to the freedom of competition and speech, could be considered to “interfere with brand communication, investment, and advertising”¹¹⁴ even in double identity¹¹⁵.

The court in *L'Oréal v. Bellure* also elaborated on reputable trademarks. It noted that unfair advantage, taken of the distinctive character or the repute of the mark, does not require proving any likelihood of confusion or likelihood of detriment to such a

European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*. Kur also opined that the case brought “unpredictable results under case law burdened by convoluted and confusing terminology” (Kur. Trademark Function, Don't They? CJEU Jurisprudence and Unfair Competition Principles).

¹¹² Senftleben. Trade Mark Protection – A Black Hole in the Intellectual Property Galaxy?

¹¹³ Senftleben, M., 2011. Adapting EU Trademark Law to New Technologies: Back to Basics? In: C. Geiger, ed. 2013. *Constructing European Intellectual Property: Achievements and New Perspectives*. Cheltenham: Edward Elgar Publishing. [online] Available at:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1875629 [Accessed 17 April 2020]. The author argued that “brand protection is protection of investments that are made to improve an enterprise's market position. It is not evident that this selfish investment decision also furthers the overall welfare of society [...] incentive rationale and the reward rationale, are inapplicable in this context [...] Otherwise, the brand owner would obtain an exclusive right that, de facto, can be equated with exploitation rights conferred in copyright and patent law.” Also see Gangjee, D.S., 2013. Property in Brands: The Commodification of Conversation. In: H. Howe and J. Griffiths, eds. 2013. *Property Concepts in Intellectual Property Law*. Cambridge: Cambridge University Press. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2235721 [Accessed 17 April 2020].

¹¹⁴ Senftleben. Adapting EU Trademark Law to New Technologies: Back to Basics? Senftleben also stressed that “[t]hese additional functions are typically fulfilled by marks with a reputation. A strong brand is capable of conveying lifestyle messages that are the result of substantial investment in advertising. Protection of communication, investment, and advertising functions is thus protection of the investment in the creation of a favourable brand image and the brand communication based on this image” (Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function).

¹¹⁵ With respect to comparative advertising, in *L'Oréal v. Bellure*, the court referred to the Comparative Advertising Directive as “an external balancing tool” (Senftleben. Adapting EU Trademark Law to New Technologies: Back to Basics?). The court stated that if advertising fulfills requirements of the aforementioned directive, the trademark proprietor cannot prohibit such a use.

character or the mark's repute (or to the right holder). Unfair advantage happens where a party attempts to *“ride on the coat-tails of the mark with a reputation in order to benefit from the power of attraction, the reputation and the prestige of that mark and to exploit, without paying any financial compensation, the marketing effort expended by the proprietor of the mark in order to create and maintain the mark's image”*¹¹⁶.

This reasoning was not met with enthusiasm. With unfair advantage, the focus was now on the infringer's actions and not on any harm to the proprietor – *“unjustified brand exploitation rights”*¹¹⁷ appeared. *L'Oréal v. Bellure* concerned comparative advertising, and critics saw an encroachment on the competitors' freedom of commercial speech as well as consumers' interest in full commercial data – *“[i]f consumer information [...] is no longer recognized as providing ‘due cause’ – what else would be left?”*¹¹⁸

In the following cases, the “new” functions finally received more details from the CJEU.

3.4 Keyword Advertising Era

The keyword advertising era is related to disputes, which arose due to the use of signs, similar or identical to registered marks, in the Google AdWords advertising platform¹¹⁹ by third parties, i.e., advertisers (mostly competitors of the marks' right holders).

In *Google France* (2010), which concerned, i.a., the use of trademarks with reputation (e.g., “Louis Vuitton”), the CJEU interpreted the double identity provisions of the First Directive 1988 and Regulation 1993 as well as Article 5(1)-(2) of the First Directive 1988 and Article 9(1) of the Regulation 1993 in general. The court found that Google did not use the marks, so there was no need to analyze other parts of the infringement test under double identity. Porangaba argued that, while this case could have become an unfair advantage one with respect to Google, *“infringement was automatically dismissed without any need of undertaking an assessment under the functions*

¹¹⁶ *L'Oréal v. Bellure*.

¹¹⁷ Senftleben. Adapting EU Trademark Law to New Technologies: Back to Basics? The author suggested that this broadening is the final step in stretching protection for marks with reputation: it all started with eroding the general use requirement by bringing referential and decorative use into the realm of infringement with no analysis of the public's perception; then, the requirements for finding reputation were eased (niche reputation is enough); later, for the blurring cases, the change of economic behavior of an average consumer was introduced; finally, the court came to riding on the coat-tails of a mark or merely attempting to do so. The balance shifted from an alleged infringer in favor of the right holder.

¹¹⁸ Kur, A., Bently, L.A.F. and Ohly, A., 2010. Sweet Smells and a Sour Taste – The ECJ's L'Oréal Decision. *University of Cambridge Legal Studies Research Paper Series*, [online] 10/01. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1492032 [Accessed 17 April 2020].

¹¹⁹ Currently – Google Ads. (Google, n.d. *Google AdWords is Now Google Ads*. [online] Available at: <https://support.google.com/adwords/answer/9028765> [Accessed 17 April 2020].)

theory”; no context was taken into account¹²⁰. As for advertisers, they did use the marks for goods and services, identical with the marks’ registrations, regardless of the fact of offering alternatives or, on the contrary, misleading consumers (both when the sign was used as a keyword or was also displayed in advertisements). The court concluded that emerging forms of e-commerce only confirm that the list of possible actions by third parties that can be prohibited is non-exhaustive to take in account new types of uses (see Article 10(3) of the Directive 2015 and Article 9(3) of the Regulation 2017).

Having reminded of the list of “new” functions from *L’Oréal v. Bellure*, the court analyzed the origin and advertising functions. As for the origin function in the age of e-commerce, it is adversely affected if an advertisement “*does not enable normally informed and reasonably active internet users, or enables them only with difficulty, to ascertain whether the goods or services referred to by the ad originate from the proprietor of the trade mark or an undertaking economically connected to it or, on the contrary, originate from a third party*”¹²¹. If an advertisement “*suggests that there is an economic link between that third party and the proprietor of the trade mark,*” the adverse effect occurs¹²². So, the court in principle approved keyword advertising¹²³.

Concerning the advertising function, the CJEU explained it for the first time. This function implies informing and persuading consumers; it means that a trademark is “*a factor in sales promotion or [...] an instrument of commercial strategy*”¹²⁴. In the case at issue, however, the court did not find any adverse effect on this function by third parties’ using the mark as a keyword in AdWords: with probable appearance of the right holder’s pages in the natural search results in Google and the possibility for the right holder to pay to have its pages displayed in the sponsored search results through AdWords, there are no unfavorable consequences for the right holder, even if the price for being included into the sponsored results grows for the mark’s proprietor.

Interestingly, the court “*redefine[d] protection against confusion as a positive obligation of third parties to keep a sufficient distance from the origin information*

¹²⁰ Porangaba. The author wrote that “*Google France is the hallmark of trade mark use operating as a doctrine of immunisation in European trade mark law.*”

¹²¹ CJEU Case C-236/08, *Google France SARL and Google Inc. v. Louis Vuitton Malletier SA* (C-236/08), *Google France SARL v. Viaticum SA and Luteciel SARL* (C-237/08) and *Google France SARL v. Centre national de recherche en relations humaines (CNRRH) SARL and Others* (C-238/08), [2010], ECR I-02417.

¹²² Ibid.

¹²³ Advocate General’s Opinion. CJEU Case C-323/09, *Interflora Inc. and Interflora British Unit v. Marks & Spencer plc and Flowers Direct Online Ltd*, [2011], ECR I-08625.

¹²⁴ *Google France*.

*conveyed via the trademark*¹²⁵ – trademark protection became wider again. As for the “new” functions, it is unclear why the court only focused on the advertising one in the absence of definitions for other functions. Also, the conclusion on the lack of adverse effect on the advertising function was not grounded on realities but was a pure assumption – while most businesses have websites, an entity with no website riddles the conclusion entirely¹²⁶. There was no balancing between trademark protection and such fundamental values as freedom of competition, as the case essentially required¹²⁷.

The definition of the advertising function was not met as justifying extended protection in double identity¹²⁸. At the same time, this function is implied in the anti-dilution clause, which “*protects the good (or at least strong) image that the trade mark owner has built up through his investment both in promoting his mark and ensuring the quality of its goods or services*”¹²⁹. With respect to reputable marks, as Ilanah Simon Fhima argued, the court did not take into account the right holder’s opinion as to the mark’s advertising function and harm to it. In this case, the scholar claimed, the reputable mark’s right holder may want to utilize the unfair advantage construct under *L’Oréal v. Bellure*.¹³⁰

To conclude, the CJEU made the origin function quite broad, however, an adverse effect on it was still necessary to find an infringement. While the advertising function was not negatively affected in the keyword advertising case, the function’s unclear definition left much uncertainty for both trademark proprietors and users.¹³¹

Portakabin (2010) again caused interpretation of, i.a., Article 5(1) of the First Directive 1988. It related to the use of the right holder’s trademark in AdWords both in keywords and in the advertisement (the mark was also used with mistakes; the advertisement looked like “used portakabins”). The defendant was selling goods produced by the right

¹²⁵ Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function.

¹²⁶ Ibid.

¹²⁷ Advocate General’s Opinion. *Google France*.

¹²⁸ Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function.

¹²⁹ Fhima, I.S., 2011. The Court of Justice’s Protection of the Advertising Function of Trade Marks: An (Almost) Sceptical Analysis. *Journal of Intellectual Property Law and Practice*, [online] 6(5). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2112000 [Accessed 17 April 2020].

¹³⁰ Ibid.

¹³¹ In two days after the *Google France* judgment, the CJEU’s judgment in *BergSpechte* (2010) was issued. The case concerned both the double identity and likelihood of confusion situations with signs, used by the third party only as keywords in AdWords. So, the court interpreted Article 5(1) of the First Directive 1988. The CJEU basically repeated its findings in *Google France* with respect to the origin and advertising functions.

holder and other entities (the exhaustion doctrine was of relevance). The court reminded of the double identity test and went through all its elements: it found the use in the course of trade for the goods and services (including in the case with selling identical goods of other manufacturers, since offering an alternative to the right holder's products does constitute use in relation to goods and services – a reference to *Google France* was made). Then, the court repeated the *Google France* findings on the origin and advertising functions. In the likelihood of confusion analysis, the court also followed the origin function logic from earlier cases.

Concerning the invoked limitations as to the effects of trademarks (Article 6 of the First Directive 1988), the CJEU concluded that if an alleged infringer's actions can be prohibited under Article 5, the infringer cannot rely on those limitations. As for exhaustion (Article 7), the court stated that there would be a legitimate reason to oppose the advertisement of the resale of the right holder's goods with the use of the sign as a keyword if that use "*gives the impression that the reseller and the trade mark proprietor are economically linked or [if it] is seriously detrimental to the reputation of the mark*"¹³². The court specified that, while mere using the words "used" or "second hand" does not lead to an infringement, the right holder can prohibit advertising if the advertiser removed the right holder's marks from them and placed on such products the advertiser's signs with using the mark as a keyword – there will be an adverse effect on the origin function. The court added that

*"[when] a reseller specialises in the resale of goods under another person's trade mark, the reseller cannot be prohibited from using that mark in order to advertise its resale activities which include – apart from the sale of second-hand goods under that mark – the sale of other second-hand goods, unless the resale of those other goods risks, in the light of their volume, their presentation or their poor quality, seriously damaging the image which the proprietor has succeeded in creating for its mark"*¹³³.

Despite some safety gaps for resellers, the CJEU borrowed terminology from *Google France* on the advertisement's vagueness and applied it to limitations and exhaustion. In analyzing these exceptions, the court used the same reasoning as for establishing an infringement – thus, the whole point in the existence of exceptions disappeared.¹³⁴

¹³² CJEU Case C-558/08, *Portakabin Ltd and Portakabin BV v. Primakabin BV*, [2010], ECR I-06963.

¹³³ *Ibid.*

¹³⁴ Senftleben. Adapting EU Trademark Law to New Technologies: Back to Basics?

In *L'Oréal v. eBay* (2011), the CJEU interpreted Article 5 of the First Directive 1988 and Article 9 of the Regulation 1993. The case concerned eBay that used signs, corresponding to L'Oréal trademarks, on AdWords. It was done to promote sales of third parties' goods with L'Oréal marks on the eBay website. The court confirmed that if products had not been put on the EEA market by the right holder, the latter could prevent sales, sale offers, and advertising of such items based on Article 5 and Article 9. These provisions could also be utilized to oppose resale of goods without original packaging if such actions caused damage to the origin function (*"[w]hen [...] information relating to the identity of the manufacturer or the person responsible for marketing the cosmetic product, is missing, the trade mark's function of indicating origin is impaired"*¹³⁵). The right holder could also oppose these activities if, while the indication-of-origin information is present, *"the removal of the packaging has damaged the image of the product and, hence, the reputation of the trade mark"*¹³⁶.

The CJEU concluded that eBay did not use the signs, identical with or similar to the trademarks, when showing them in sale offers on its website. However, when eBay used identical signs on AdWords to promote sale offers on the eBay marketplace, the right holder could utilize the double identity clauses to prohibit such actions if *"reasonably well-informed and reasonably observant internet users"*¹³⁷ might be confused as to the origin of the offered goods (reference to *Google France*).

So, when using signs as AdWords, eBay was found to perform a trademark use by the fact of a mere association with the mark¹³⁸. However, there was a lack of use by eBay in sale offers on the eBay platform. Thus, platforms were put outside of the right holder's reach¹³⁹ – this issue will be paid more attention below. It was eBay customers who were using the mark by placing sale offers on eBay – in this regard, Advocate General Niilo Jääskinen urged to consider freedom of expression and information when analyzing advertisements by users¹⁴⁰; he continued reasoning in the same vein in *Interflora*.

In *Interflora* (2011), the double identity and trademark with reputation clauses were analyzed. The flower delivery company Interflora sued Marks & Spencer for using the "Interflora" trademark as AdWords (the advertisement itself did not contain this word

¹³⁵ *L'Oréal v. eBay*.

¹³⁶ Ibid.

¹³⁷ Ibid.

¹³⁸ Senftleben. Adapting EU Trademark Law to New Technologies: Back to Basics?

¹³⁹ Ibid.

¹⁴⁰ Advocate General's Opinion. *L'Oréal v. eBay*.

or any reference to Interflora). The CJEU repeated its conclusions from *Google France* on double identity regarding the origin and advertising functions. The court noted that keyword advertising by Marks & Spencer did not “*have the effect of denying the proprietor of that trade mark the opportunity of using its mark effectively to inform and win over consumers*”¹⁴¹. The court confirmed its position on the multiplicity of functions by referring to the words “in particular” as well as to the *Arsenal* case with its “functions.” The court stated that “*a trade mark is often, in addition to an indication of the origin of the goods or services, an instrument of commercial strategy used, inter alia, for advertising purposes or to acquire a reputation in order to develop consumer loyalty*”¹⁴². Stressing that the origin function is integral to the mark’s nature, the court did not find any reason to say that only reputable trademarks may exercise additional functions (a regular mark may also do that if the mark’s owner uses it in such a way).

The court defined the investment function as enabling the right holder “*to acquire or preserve a reputation capable of attracting consumers and retaining their loyalty*”¹⁴³. The court admitted an overlap between the advertising and investment functions and noted that right holders usually utilize not only advertising, but also various commercial techniques to acquire and maintain the mark’s reputation. An adverse effect on this function exists when the right holder’s use of the mark to acquire and maintain reputation is touched upon. If the mark is reputable, the adverse effect occurs when the third party’s use “*affects that reputation and thereby jeopardizes its maintenance*”¹⁴⁴. But, if the right holder is just forced to adapt its measures to acquire and maintain reputation, it does not cause an adverse effect. If some consumers stop buying trademarked products, this also does not constitute such an effect.

The court concluded that, if a mark draws “*the internet users’ attention to the existence of an alternative product or service*”¹⁴⁵, it does not signify reduction of the mark’s distinctiveness. However, if blurring in fact happens, dilution might be found. The court also stated that, if the mark’s use is to offer an alternative, it is not without due cause, given the absence of offering imitations, causing blurring or tarnishment, and adversely affecting trademark functions. The court, however, did not connect the investment or any other function with specific elements of the anti-dilution provision.

¹⁴¹ *Interflora*.

¹⁴² *Ibid*.

¹⁴³ *Ibid*.

¹⁴⁴ *Ibid*.

¹⁴⁵ *Ibid*.

The unfair advantage construct from *L'Oréal v. Bellure* with its free riding on coat-tails of a mark was quite broad. In *Interflora*, Advocate General Jääskinen, agreeing with the advantage taken by the advertiser, focused on fairness of this conduct – he believed that keyword advertising did not amount to free riding due to its role in promoting competition and providing information to consumers¹⁴⁶. The court, however, confirmed the coat-tails concept for keyword advertising, pointing at its unfair advantage, but still introduced the “due cause” defense for the fact of offering alternatives.

In the end, as Senftleben regretted, a “*high threshold for assuming an adverse effect on newly protected trademark functions under [double identity], and a strict test of unfairness [in the case with reputable marks]*” did not change the situation with quite extensive brand protection: a loose concept of trademark use with a mere association with the mark, easiness in establishing reputation, and continuous application of the function theory only confirm this conclusion. While the “due cause” provision savors keyword advertising, the scholar urged for more limitations to achieve a better balance between trademark protection and third parties’ rights and freedoms to allow referential use, comparative advertising, as well as parody, comment, and criticism.¹⁴⁷

So, the CJEU, leaving the list of functions open, defined only to the advertising and investment functions. Though, the court “*remains remarkably cautious*”¹⁴⁸ when assessing if those functions are detrimentally affected. The origin function is now quite broad and covers situations with vague advertisements that do not allow normally informed and reasonably attentive Internet users to easily conclude whether there are ties between the right holder and the advertiser. The origin function became “*detached to some degree from likelihood of confusion*”.¹⁴⁹ The communication function is still a “*terra incognita*”¹⁵⁰, and the quality function was not elaborated on, too.

¹⁴⁶ Advocate General’s Opinion. *Interflora*.

¹⁴⁷ Senftleben. Adapting EU Trademark Law to New Technologies: Back to Basics?

¹⁴⁸ Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

¹⁴⁹ Ibid.

¹⁵⁰ Senftleben. Trademark Transactions in EU Law – Refining the Approach to Selective Distribution Networks and National Unfair Competition Law. Advocate General Niilo Jääskinen in *L'Oréal v. eBay* even argued that “*it seems that in the doctrine the elements of this function are to a large extent covered by the distinguishing and origin function, advertising function and the investment function*” (Advocate General’s Opinion. *L'Oréal v. eBay*).

3.5 Solidifying the Function Theory

In *Budějovický Budvar* (2011), Article 4 of the First Directive 1988 on the grounds for refusal or invalidity was touched upon. The CJEU confirmed that Article 4(1)(a) must be interpreted as meaning that in a double identity case, a younger trademark shall be invalidated if the use of the latter will have a detriment to the earlier marks' origin function. However, the situation involved “*a long period of honest concurrent use of two identical trade marks designating identical products*”¹⁵¹ (“Budweiser” marks of competing parties). This fact did not cause any adverse effect. The court also reminded of the “new” functions by referring to *L'Oréal v. Bellure* and *Google France*.

Remarkably, Advocate General Verica Trstenjak in this case, besides stressing the principality of the essential function, referred to the list of other functions: “*coding, guarantee, origin, identification and individualisation, information and communication, monopolising, naming, quality, distinction, confidence, distribution and advertising functions*”¹⁵². Such discussions may partially explain the lack of clarity in the CJEU reasoning: there is no consensus anywhere on what constitutes the list of trademark functions and how they exactly differ from each other, so with no additional argumentation, the CJEU's definitions sound incomplete and not fully reasonable.

The CJEU referred to the “new” functions in *Pie Optiek* (2012), *Martin Y Paz* (2013), *Leidseplein Beheer and de Vries* (2014), *Daimler* (2016), *W. F. Gözze Frottierweberei and Gözze* (2017), *Mitsubishi* (2018). Two cases are of particular interest.

Martin Y Paz (2013) involved interpretation of Article 5 of the First Directive 1988 and concerned the situation of a potentially unfair conduct of the mark's right holder against the third party that had the right holder's consent to use the mark. Such a situation does not constitute a limitation; so, the CJEU concluded that the national court may not limit this right “*in a manner which exceeds the limitations arising from Article 5 to 7 of the [First Directive 1988]*”¹⁵³. Given the right holder's unfair conduct and the lack of a subsequent trademark registration by the opponent, the EU legislation did not have any just solution to the situation at issue. So, the court decided to utilize the new theory: the CJEU reminded that trademark protection exists to secure right holder's interests in ensuring that the mark fulfills its functions and that the exclusive

¹⁵¹ CJEU Case C-324/09, *Budějovický Budvar, národní podnik v. Anheuser-Busch Inc.*, [2011], ECR I-08701.

¹⁵² Advocate General's Opinion. *Budějovický Budvar*.

¹⁵³ CJEU Case C-661/11, *Martin y Paz Diffusion SA v David Depuydt and Fabrik van Maroquinerie Gauquie NV*, [2013].

right may be exercised when those functions are affected. Therefore, if there is an adverse effect, the right holder may still file the trademark infringement claim against the person, to which the right holder used to provide its consent to use the mark. Thus, the CJEU left the opportunity to national courts to use the function theory in situations with the proprietor's unfair conduct against the third person with no trademark.

Mitsubishi (2018), covering Article 5 of the First Directive and Article 9 of the Regulation 1993, dealt with the importation of Mitsubishi forklift trucks into the EEA by third parties with no authorization from the right holder. Those parties brought products into the EEA, replaced the right holder's marks from them, made adjustments to comply with the EEA rules, and put their own signs onto the products – these actions happened in the customs warehouse before the actual marketing of products in the EEA. The court paid attention to the origin, advertising, and investment functions and concluded that, while the marks were not used in any way, the third parties deprived the right holder of “*exercising his right to control the first placing of goods bearing that mark on the market in the EEA, [it] by its very nature undermines that essential [origin] function of the trade mark*”¹⁵⁴. Also, the origin function was affected, irrespective of the fact that consumers still recognized the trucks as coming from Mitsubishi. In regard to other functions, the court stated that the third parties' actions

*“[preclude] the trade mark proprietor from being able to retain customers by virtue of the quality of its goods and [affect] the functions of investment and advertising of the mark where [...] the product in question is not still marketed under the trade mark of the proprietor on that market by him or with his consent. The fact that the trade mark proprietor's goods are placed on the market before that proprietor has placed them on that market bearing that trade mark, with the result that consumers will know those goods before being able to associate them with that trade mark, is likely substantially to impede the use of that mark, by the proprietor, in order to acquire a reputation likely to attract and retain consumers, and to serve as a factor in sales promotion or as an instrument of commercial strategy. In addition, such actions deprive the proprietor of the possibility of obtaining, by putting the goods on the EEA market first, the economic value of the product bearing that mark and, therefore, of its investment”*¹⁵⁵.

The two judgments received criticism for bringing controversial situations with possible different solutions at the national level to the realm of the EU trademark law. In *Martin*

¹⁵⁴ CJEU Case C-129/17, *Mitsubishi Shoji Kaisha Ltd and Mitsubishi Caterpillar Forklift Europe BV v. Duma Forklifts NV and G.S. International BVBA*, [2018].

¹⁵⁵ *Ibid.*

Y Paz, the CJEU did not let the national court to apply local unfair competition rules and brought the case with unfair behavior of the right holder under the EU law that did not harmonize such situations. In *Mitsubishi*, the origin function was even made separate from the mark, and, as for other functions, a negative effect on them could not justify that the removal of the mark was an infringement under the EU laws.¹⁵⁶

The CJEU tried to fill in blank spaces in the legislation, and the function theory became a meta-norm of fairness and equity, particularly in double identity with no “due cause” provision: the court refused to let national unfair competition rules act, so it had to appeal to some tool to solve the conundrum – this trend can be perceived as a positive one, though with a general negative background of the CJEU’s trying to refuse from applying national concepts and the lack of the EU-wide fairness and equity norms.¹⁵⁷

3.6 Trademark Function Theory Settled

The EU function theory received various descriptions from scholars: from the “*source of legal uncertainty*” and unpredictability¹⁵⁸ as well as vague terminology and encroachment onto the Member States’ competence¹⁵⁹ to “*one of the most contentious issues in contemporary European trade mark law*”¹⁶⁰ and the one that, however, “*can hardly be condemned as clearly inappropriate or even illegitimate*”¹⁶¹.

The functions jurisprudence, though applied in a rather limited number of cases, was met as a threat: competitors were afraid that right holders, referring even to non-existing functions, could prohibit any trademark use. Jens Schovsbo, in describing the development of the EU trademark laws, underlined that it is the right holder’s interests that prevail¹⁶². Nevertheless, as case law showed, the function theory did not become

¹⁵⁶ Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

¹⁵⁷ Senftleben. Trademark Transactions in EU Law – Refining the Approach to Selective Distribution Networks and National Unfair Competition Law.

¹⁵⁸ Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function.

¹⁵⁹ Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

¹⁶⁰ Porangaba.

¹⁶¹ Kur. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

¹⁶² Schovsbo, J.H., 2018. “Mark My Words” – Trademarks and Fundamental Rights in the EU. *UC Irvine Law Review*, [online] 8(3). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2928031 [Accessed 17 April 2020].

“*overly right holder-biased*”¹⁶³. The theory brought more flexibility: while recognizing that cases with no confusion are covered by trademark law, the CJEU accepted that there can be other legal uses besides official limitations, e.g., presentation of alternatives. This is a positive trend, given diverse approaches on the national level.¹⁶⁴

The current Directive 2015, in its Recital 18, stresses that “*an infringement of a trade mark can only be established if there is a finding that the infringing mark or sign is used in the course of trade for the purposes of distinguishing goods or services*”¹⁶⁵. Besides, the Directive 2015 and Regulation 2017 have new statute limitations that include the possibility to use the proprietor’s mark to identify and refer to goods/services as those of the right holder. Also, the texts stipulate that comparative advertising, not in line with the Comparative Advertising Directive, can be prohibited by the proprietor (Article 10(3)(f) of the Directive 2015 and Article 9(3)(f) of the Regulation 2017). Thus, cases that gave rise to the function theory can now be settled with the use of these new norms. However, the theory does not go away, and Kur invited to follow what Advocate General Juliane Kokott stated in her opinion for *Viking Gas* (2011): “*The protection of [trademark] functions on the basis of [Article 5(1) of the First Directive 1988], first, must not undermine the requirements of specific protective rules and, second, must respect overriding other interests*”¹⁶⁶ (in that case, protection of competition and consumers’ property rights outweighed trademark functions). Kur urged to take into account general fairness and competition-related argumentation when deciding a dispute – the process that shall be done on a case-by-case basis.¹⁶⁷

Using trademarks in keyword advertising, metatags, and online auctions is already history in the EU case law. Given the pace of technological development, including in the ways goods/services are advertised and sold, *[i]t is hard to see why future uses would not continue to develop new [ways] for trademarks to be used*”¹⁶⁸. To be on the same page with these changes, law shall provide balance that Kokott appealed for –

¹⁶³ Kur, Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*.

¹⁶⁴ Ibid.

¹⁶⁵ Directive 2015.

¹⁶⁶ Advocate General’s Opinion. CJEU Case C-46/10, *Viking Gas A/S v. Kosan Gas A/S*, [2011], ECR I-06161.

¹⁶⁷ Kur, Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*. Also see Kur, Trademark Function, Don’t They? CJEU Jurisprudence and Unfair Competition Principles.

¹⁶⁸ Schovsbo.

between the proprietors' interests and those of competitors, consumers, and the general public.

Current EU trademark laws “*should be applied in a way that ensures full respect for fundamental rights and freedoms, and in particular the freedom of expression*”¹⁶⁹. Schovsbo and Lisa Ramsey reassured that with these novelties, there will be more balanced judicial discussions: the *Gillette* focus on “*legitimate interests of right holders*”¹⁷⁰ shall be changed to consider interests of all parties¹⁷¹. However, the scholars suggested that functions shall still be further explained by the legislature; otherwise, the function theory might work in favor of right holders, and such values as freedom of competition and expression might be in danger¹⁷². The right balance, on the contrary, will allow trademark uses for parody, comment, criticism, and other free speech manifestations¹⁷³. According to Schovsbo and Ramsey, trademark functions are “*functional equivalents*” to statutory limitations¹⁷⁴. But the scholars urged nations to enact a judicial discretion to further limit the effects of trademarks and “*promote public interest*” and address future trademark uses¹⁷⁵.

Different scholars also stressed that consumers shall be focused on more precisely. With the modern pace of life, their habits and preferences shift quickly. While Kur argued that, when handling a case that might take years, courts shall ground their decisions on “*a strong normative component*” and not on the “*application of the law to a given set of [outdated consumer-related] empirical data*”¹⁷⁶, it is the function theory, as Porangaba underlined, that can bring market realities into consideration and make account of the consumer decision-making process while evaluating an infringement –

¹⁶⁹ Recital 27 of the Directive 2015 and Recital 21 of the Regulation 2017.

¹⁷⁰ CJEU Case C-228/03, *The Gillette Company and Gillette Group Finland Oy v LA-Laboratories Ltd Oy*, [2005], ECR I-02337.

¹⁷¹ Ramsey, L.P. and Schovsbo, J.H., 2013. Mechanisms for Limiting Trade Mark Rights to Further Competition and Free Speech. *International Review of Intellectual Property and Competition Law*, [online] 44(6). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2619436 [Accessed 17 April 2020].

¹⁷² Ibid.

¹⁷³ See, e.g., Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function. Also see Peguera.

¹⁷⁴ Ibid.

¹⁷⁵ Ibid.

¹⁷⁶ Kur, A., 2016. Brand Symbols, the Consumer, and the Internet. *Max Planck Institute for Innovation and Competition Research Paper*, [online] 16-01. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2721740 [Accessed 17 April 2020].

this approach, avoiding untested presumptions, can overcome brand protection in trademark law¹⁷⁷.

The voice shopping scenarios in Chapter 5 will present some trademark uses (or the lack thereof) in the new voice shopping setting, led by AI. Those might be novel uses or well-masked already familiar ones. Anyway, analyzing those scenarios, with keeping in mind the discussed history, current state, and criticism of the EU trademark function theory, will be more profound and even more responsible than without all that. But before, the search costs theory of trademark law will be described in the next chapter. The choice to consider this theory was made, because it puts costs of consumers, the major actors in trademark law, into the center of analysis. At the same time, the search costs theory may assist in addressing trademark functions from one starting point. Scholars requested more clarifications from the CJEU and even legislature on the function theory and asked for a better and more grounded treatment of consumers in trademark law – the search costs theory might be useful in addressing both of these considerations.

¹⁷⁷ Porangaba.

4 SEARCH COSTS THEORY OF TRADEMARK LAW

4.1 Search Costs and Types of Consumer Confusion

Though the search costs theory was developed in the US with the case law from local courts, its propositions are equally applicable to trademark laws around the world. This is so because consumers, whom trademarks address, are human beings that generally follow similar psychological patterns. Moreover, trademark law, due to its close relations with trade (not only domestic, but also international) is harmonized to some extent with the help of various international agreements.

Concepts that the search costs theorists cover in their works derive from the US legal theory and practice but can be compared to those in the EU law. Therefore, no separate comments will be made at this point in regard to trademark use and dilution. However, a short explanation is required for the initial interest and post-sale confusion.

When the trademark discussion reaches the theme of infringement, one is usually keeping in mind the point-of-sale confusion that happens at the moment of purchase. However, in the US, courts also find infringement in situations with the initial interest (pre-sale) confusion and post-sale confusion.

The initial interest confusion implies consumer confusion as a result of the alleged infringer's actions at the moment of this consumer's first interest in a good/service; however, at the moment of purchase, all confusion is gone¹⁷⁸. For instance, a road banner makes a driver believe that there is a store of his/her interest behind the corner, but by the time he/she approaches or enters the store – and especially buys something from that store, – there is no confusion. Possible harm to trademark owners occurs due to the fact that the consumer might choose this store because he/she is already there and does not want to make any efforts to find the store of his/her true interest (diversion of trade might actually happen).

The US courts started applying the initial interest confusion doctrine more frequently in the e-commerce age with its growing practice of putting trademarks in metatags, keyword advertising, and domain names¹⁷⁹. In the EU, the initial interest doctrine does

¹⁷⁸ International Trademark Association, 2006. *Initial Interest Confusion*. [online] Available at: <https://www.inta.org/Advocacy/Pages/InitialInterestConfusion.aspx> [Accessed 17 April 2020].

¹⁷⁹ Ibid.

not officially exist, but scholars believe that it is finding its place there, too¹⁸⁰. Anyway, cases with keyword advertising are common in the EU. So, the initial interest confusion as a mere fact, happening in the consumer's mind, cannot be unknown in the EU.

As for the post-sale confusion, it happens on the side of the public as potential consumers who observe the allegedly infringing product, which has already been purchased, and make assumptions about it, which might be damaging for the trademark holder. In Europe, “the CJEU accepted the doctrine of postsale confusion in cases such as *[Arsenal v. Reed]*”¹⁸¹ when it discussed how in possible resale of Matthew Reed's products, in which there would be no explanations about using the mark as a badge of loyalty, later consumers might be confused as to the goods' origin.

4.2 Description of the Search Costs Theory

The leading theory for justifying intellectual property is the utilitarian approach, along with labor, personality, and social welfare ones. In describing what this theory means, William Fisher turned to the Benthamite “*greatest good of the greatest number*” and such modern incarnations as “*wealth-maximization*”¹⁸². One of the particularizations of utilitarianism is the economic theory¹⁸³, which, in turn, generated the search costs theory of trademark law. According to Richard Posner, the economic theory “*tries to explain and predict the behavior of participants in and persons regulated by the law. It also tries to improve law by pointing out respects in which existing or proposed laws have unintended or undesirable consequences, whether on economic efficiency, or the distribution of income and wealth, or other values*”¹⁸⁴. Therefore, the search

¹⁸⁰ Blythe, A., 2016. Initial Interest Confusion: Attempting to Define Its Current Status within European Trade Mark Law. *European Intellectual Property Review*, [online] 38(4). Available at: <https://pdfs.semanticscholar.org/4958/8dace42075236e8d7ac4d8d98a0dff38c006.pdf> [Accessed 17 April 2020]. Also see Fhima, I.S., 2013. Initial Interest Confusion. *Journal of Intellectual Property Law and Practice*, [online] 8(4). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2382000 [Accessed 17 April 2020].

¹⁸¹ Morris, P.S., 2012. Guess What Gucci? Post-Sale Confusion Exists in Europe. *Valparaiso University Law Review*, [online] 47(1). Available at: <https://scholar.valpo.edu/cgi/viewcontent.cgi?article=2254&context=vulr> [Accessed 17 April 2020].

¹⁸² Fisher, W., 2001. Theories of Intellectual Property. In: S. Munzer, ed. 2001. *New Essays in the Legal and Political Theory of Property*. Cambridge: Cambridge University Press. [online] Available at: <https://cyber.harvard.edu/people/tfisher/iptheory.pdf> [Accessed 17 April 2020].

¹⁸³ Menell, P.S., 1999. Intellectual Property: General Theories. In: P. Newman, ed. 1999. *The New Palgrave Encyclopedia of Law and Economic*. Vol. II. London: Palgrave Macmillan. [online] Available at: <http://www.dklevine.com/archive/ittheory.pdf> [Accessed 17 April 2020].

¹⁸⁴ Posner, R.A., 1998. Values and Consequences: An Introduction to Economic Analysis of Law. *John M. Olin Law and Economics Working Paper*, [online] 53 (2nd series). Available at: <https://pdfs.semanticscholar.org/fcca/671b93a88efd6d5807b12ea01f4094a8833c.pdf> [Accessed 17 April 2020].

costs theory, like other law and economics perspectives, handles trademark law from the point of view of its input into overall wealth¹⁸⁵.

In 1987, Posner together with William Landes wrote their famous article “*Trademark Law: An Economic Perspective*.” Explaining how trademark law promotes economic efficiency, the theorists stated that trademark law helps consumers avoid search costs in the market for trademarked goods – it is cheaper to look for a mark than for product’s parameters: “*Trademarks enable the consumer to economize on a real cost because he spends less time searching to get the quality he wants [...] Consumers will be willing to pay higher prices for lower search costs and greater assurance of consistent quality*”¹⁸⁶. Past experience with quality of a certain product becomes a forecaster of future behavior. Without the possibility to connect the past and the future, trademarks will not signify anything to consumers, and no search costs will be lowered. The authors call this identifying and distinguishing function “*the social function*” of trademarks.¹⁸⁷

Trademark owners are required to maintain consistent quality of their products; otherwise, trademarks would be meaningless for consumers, as mentioned above¹⁸⁸. Besides, with no trademark protection, “*sellers have no incentive to market good quality because they are not going to enjoy any repetitional reward as the origin of the products remains unknown (moral hazard)*”¹⁸⁹. Indeed, many sellers are dependent upon recurring purchases by the same buyers¹⁹⁰.

If a person wants to buy a product, it is faster to name it, using a mark, than to describe its features, e.g., the producer’s company name¹⁹¹. The situation gets more complicated if there is a wide range of products from the same manufacturer – the search process will become longer, and people will start spending more time on shopping than on

¹⁸⁵ Griffiths, A., 2011. *An Economic Perspective on Trade Mark Law*. [e-book] Cheltenham: Edward Elgar Publishing. Available at: <https://books.google.fr/books?id=gXL8AQAAQBAJ> [Accessed 17 April 2020].

¹⁸⁶ Landes and Posner.

¹⁸⁷ Ibid.

¹⁸⁸ Ibid.

¹⁸⁹ Chronopoulos, A., 2011. Determining the Scope of Trademark Rights by Recourse to Value Judgments Related to the Effectiveness of Competition – The Demise of the Trademark Use Requirement and the Functional Analysis of Trademark Law. *International Review of Intellectual Property and Competition Law*, [online] 42. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1904641 [Accessed 17 April 2020].

¹⁹⁰ Naser, M.A., 2007. Rethinking the Foundations of Trademarks. *Buffalo Intellectual Property Law Journal*, [online] 5(1). Available at: <https://digitalcommons.law.buffalo.edu/cgi/viewcontent.cgi?article=1074&context=buffaloipjournal> [Accessed 17 April 2020].

¹⁹¹ See a no-name example in Landes and Posner and Nescafe example in Naser.

more substantive tasks. But if such costs are reduced, the consumer decision-making will improve, product quality will be maintained, and overall utility will rise¹⁹².

The search costs theory is particularly focused on product characteristics that cannot be verified before purchase – because of them, consumers get involved into the search process. The trademark’s role becomes to “reassure” consumers with respect to those features: the mark turns into an informant and guarantor for consumers.¹⁹³ Ariel Katz divided products with such features into experience and credence ones: the former can be verified after the purchase (e.g., a newspaper), the latter may not be verified at all (e.g., pharmaceuticals)¹⁹⁴. In both cases, consumers need informational tools to find the right product – trademarks are those tools.

Without the ability of the marks’ owner to maintain consistent product quality, there will be no investments into the development of a strong mark. By investing into quality and advertising, reputation of the brand and its owner is built, and the mark’s value becomes inherent in information about and reputation of the brand. At the same time, the cost of copying a mark is small, and the stronger the mark, the more often copying occurs. If the law does not prohibit it, the “*information capital*” of a mark will be in danger, while the mark’s owner will be less willing to develop a strong mark.¹⁹⁵

In *Ty Inc. v. Perryman* (2002), Posner, as a judge, applied the search costs theory to marks with reputation by claiming that consumers “*will have to think harder – incur as it were a higher imagination cost – to recognize the name as the name of the [Tiffany] store[, not, e.g., Tiffany restaurant]*”¹⁹⁶. As Stacey Dogan and Mark Lemley opined, dilution of a reputable mark (“*unique mark*”) makes consumers look for context to make a correct association with the mark’s owner – this fact increases search costs¹⁹⁷. Thus, the search costs theory tries to justify anti-dilution laws.

¹⁹² Naser. Also see Dogan, S.L. and Lemley, M.A., 2007. A Search-Costs Theory of Limiting Doctrines in Trademark Law. *The Trademark Reporter*, [online] 97(6). Available at:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=977320 [Accessed 17 April 2020].

¹⁹³ Griffiths.

¹⁹⁴ Katz, A., 2011. Beyond Search Costs: The Linguistic and Trust Functions of Trademarks. *Brigham Young University Law Review*, [online] 2010. Available at:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1497103 [Accessed 17 April 2020].

¹⁹⁵ Landes and Posner.

¹⁹⁶ *Ty Inc. v. Perryman*, 306 F.3d 509 (7th Cir. 2002).

¹⁹⁷ Dogan, S.L. and Lemley, M.A., 2004. Trademarks and Consumer Search Costs on the Internet. *Stanford Law and Economics Olin Working Paper*, [online] 294. Available at:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=560725 [Accessed 17 April 2020].

The search costs theory has become a “*totalizing and, for many, quite definitive theory of American trademark law*”¹⁹⁸. As demonstrated above, the theory easily offers an economic rationale for trademarks and their two functions: minimizing consumer search costs by signaling origin (one can make a parallel with the origin function in the EU) and stimulating producers to maintain product quality (one can make a parallel with the undefined quality function in the EU). The “*wasteful confusion*” becomes history in such conditions¹⁹⁹. Utilitarian theorists claimed that the search costs theory is meant to benefit trademark owners by giving them legal protection as well as society at large by reducing consumer search costs and minimizing their confusion²⁰⁰. As for goodwill functions, they are also justified, as shown in the previous paragraph.

Remarkably, in their article, Landes and Posner referred to source (i.e., origin), quality, advertising, investment, and even communication – all familiar terms for the EU trademark function theory. However, as it shall be reminded, there is no accepted list and definitions of trademark functions; even in the EU, there is “*uncertainty as to the interactions and overlaps between [the] newly identified functions, as well as their content*”²⁰¹. Undeniably, the processes of signaling origin and guaranteeing quality, communicating with consumers, as well as trademarks’ close relations with advertising and investment are interrelated. But no one can find a dictionary, defining trademark functions, and scholars continue to make their inputs to the terminology and the general way of thinking about trademarks, including in relation to search costs.

Barton Beebe contributed to the development of the theory²⁰². He focused his attention on trademark distinctiveness – the key requirement for a sign to be protected as a trademark. The scholar defined search distinctiveness and differential distinctiveness. While the former is necessary for a sign to be considered the trademark law subject matter, the latter defines the scope of trademark protection. The latter (and the former in cases with non-inherently distinctive marks) is acquired through use and promotion. Search distinctiveness helps indicate the source of goods/services and is not related to persuasion, while differential distinctiveness helps distinguish goods/services from those of third parties and is directly related to persuasion – this very characteristic

¹⁹⁸ Beebe.

¹⁹⁹ Bartolomew, M., 2013. Trademark Morality. *SUNY Buffalo Legal Studies Research Paper*, [online] 2013-30. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2227106 [Accessed 17 April 2020].

²⁰⁰ Naser.

²⁰¹ Gangjee. Property in Brands: The Commodification of Conversation.

²⁰² See, particularly, Beebe.

generates the “selling power” of a trademark (according to Frank Schechter, “*the more distinctive the mark, the more effective is its selling-power*”²⁰³).²⁰⁴

Consumers possess search sophistication, meaning the capability to distinguish between similar marks and avoid different types of confusion. However, consumers also possess persuasion sophistication that allows resisting during search “*the persuasive appeal of trademark distinctiveness*” and touches upon the “*likelihood of consumer delusion in preference formation*”²⁰⁵. Barton Beebe stated that “[t]he more distinctive a trademark is from other trademarks, the less costly it is for consumers, be they sophisticated or unsophisticated in search, to process that distinction. It is less costly for consumers unaidedly to recall the mark. In enhancing differential distinctiveness, the trademark producer thus internalizes some of the search costs of its consumers”²⁰⁶. However, the differential distinctiveness not only informs, but may also delude as to consumers’ needs and wants. In taking search costs of consumers, producers bring more information to the market and generate persuasion, affecting the associative reasoning of consumers (System 1 in the terms of Daniel Kahneman, as it will be commented on in Chapter 5²⁰⁷). At the same time, courts are not looking for any sophistication from consumers (including persuasion sophistication which positively correlates with search distinctiveness, as empirical studies showed) and grant more protection to trademarks as a result. Courts, however, could have intervened and allowed more consumer sophistication even at the cost of short-term confusion.²⁰⁸

Dogan and Lemley supported the search costs theory and even applied it to various defenses and limitations and challenged the modern expansion of trademark law in the US. They, for instance, paid attention to generic terms and functional signs. If such signs are allowed as trademarks, there will be search costs on both sides, but with significant discrepancy: harm for consumers who view a generic term as a mark will be much smaller than for those who view it as a descriptive term, are misled by it, and incur search costs, when merchants cannot use generic terms to describe their products. In cases that limit trademarks rights, e.g., with reselling products and comparative advertising, consumers benefit from learning about what merchants sell –

²⁰³ Schechter, F.I., 1927. The Rational Basis of Trademark Protection. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.

²⁰⁴ Beebe.

²⁰⁵ Ibid.

²⁰⁶ Ibid.

²⁰⁷ Kahneman, D., 2011. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.

²⁰⁸ Beebe.

thanks to that learning, consumer search costs are reduced. Expansion of trademark rights increases search costs and decreases information on the market.²⁰⁹

The two scholars applied the search costs theory in their appeals to limit this expansion: overly expansive trademark law will restrain competition, they argued²¹⁰. The point is that the US courts see unjust benefits from the trademark owner's goodwill in the alleged infringer's actions and tend to apply ethical principles on what is right and what is wrong²¹¹. Even in dilution cases – often with no confusion, – courts refer to goodwill and diversion of attention and find infringement without asking what consumers think. Consequently, consumer search costs increase. Fair competition is hardly possible in such conditions.²¹² At the same time, as Jessica Litman noted, “[w]ithout competition, none of the rest of the rules make any practical sense”²¹³.

In the described process, the so-called propertization of trademarks occurred because different trademark doctrines got unreasonably expanded – this concerns the trademark use doctrine, initial interest confusion, contributory infringement, etc. By tying trademark infringement to situations of using a mark as an origin identifier, the law lowers consumer search costs, for it allows, i.a., referential uses, which provide consumers with more information about goods/services. *“Just because consumers are searching for a product using the trademark doesn’t mean that they only want information from the trademark owner”*²¹⁴. Concerning the initial interest doctrine, its expansion was not led by any search cost rationale: in the Internet-related cases, the doctrine was used to protect trademark holders from third parties’ profiting *“from the goodwill”*²¹⁵ of the marks, but in the Internet age, the costs of switching from the wrong merchant to which one came through keyword advertising are minimal²¹⁶ and consumers are sophisticated with searching online. As for contributory infringement, various intermediaries, including search engines, should not be liable for simply helping advertisers to find the target audience on their platforms – this activity lowers

²⁰⁹ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet. Also see Dogan and Lemley. A Search-Costs Theory of Limiting Doctrines in Trademark Law.

²¹⁰ Dogan and Lemley. A Search-Costs Theory of Limiting Doctrines in Trademark Law.

²¹¹ Bartolomew.

²¹² Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

²¹³ Litman, J., 1999. Breakfast with Batman. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.

²¹⁴ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

²¹⁵ Ibid.

²¹⁶ See, e.g., Goldman, E., 2004. Deregulating Relevancy in Internet Trademark Law. *Emory Law Journal*, [online] 54. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=635803 [Accessed 17 April 2020]. The scholar claimed that “a searcher’s costs to change an Internet search is trivial.”

consumer search costs by presenting alternatives, despite the fact that trademark owners may not be happy with it. Thus, if search costs had been in the minds of judges, they would not have allowed the happening trademark law expansion, which led to disappearance of truthful market information that benefits consumers.²¹⁷

In this regard, particularly with respect to keyword advertising, Eric Goldman raised the issue of the importance of relevancy in online searches. He analyzed the multifactor likelihood of consumer confusion test in the US and requested that courts include the relevancy factor into the test: trademark law should not be allowed to prohibit relevant information that actually decreases consumer search costs. Otherwise, he concluded,

*“[m]inority definitions of words may become invisible, shrinking our lexicon. Criticism of trademarks may become risky and imperiled. Trademark owners are legally mandated to garner attention at the expense of all others, increasing search costs for searchers with different expectations [...] these effects may increase overall search costs by hampering the ability of searchers to use keywords to find what they want”.*²¹⁸

Tim Dornis noted in regard to the US that the search costs theory “*has ultimately failed to delimit the scope of private rights protection. As it appears, the paradigm of trademark goodwill has reconquered the field and arrived at a stage of almost maximum proprietization again*”²¹⁹. [At this point, it is worth mentioning that the scholar basically came to the same conclusion concerning the EU: he opined that the European trademark law continues to focus on private rights and investment protection, while at the same time taking control of the behavior, which used to be in the unfair competition domain (e.g., anti-dilution protection)²²⁰.]

²¹⁷ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

²¹⁸ Goldman.

²¹⁹ Dornis. Also see, e.g., McKenna. The Normative Foundations of Trademark Law. McKenna noticed the “*shift in trademark law away from confusion-based protection and towards a property-based regime that is focused only superficially on consumers.*” In addition, see Lastowka, G., 2008. Google’s Law. *Brooklyn Law Review*, [online] 73(4). Available at: <https://brooklynworks.brooklaw.edu/blr/vol73/iss4/2> [Accessed 17 April 2020]. Lastowka mentioned in regard to dilution that “*[i]f dilution law becomes more powerful [...], a regime of search term ownership may not be inconceivable.*” In Chronopoulos, the scholar underlined the “*property-based theory of trademark protection, that seeks to protect business interests that are not interwoven with the public interest against confusion related to commercial origin.*”

²²⁰ Dornis. Also see, e.g., Friedman, D., 2015. *Trademarks and Social Media: Towards Algorithmic Justice*. [e-book] Cheltenham: Edward Elgar Publishing. Available at: <https://books.google.ru/books?id=uLCCCgAAQBAJ&dq> [Accessed 17 April 2020]. According to Friedman, the “*universe of trademark functions in the EU and US has expanded from exclusively consumer interest-related functions to include proprietary functions.*”

4.3 Criticism of the Search Costs Theory

The search costs theory tries to explain everything in trademark law, from informational to persuasive functions, but it is often criticized from different angles. It might be correct to say that there are as many angles of this criticism as there are other theories, justifying trademark law. However, the goal here is to highlight the most prominent examples and not the complete range of opposite views.

Scholars criticize the theory in different ways. Ann Bartow supported the identification function of trademarks and accepted the influence of Landes and Posner's article. However, Bartow emphasized that in reality trademark owners can and do manipulate with information they provide about products as well as with products' quality, and there are no tools in trademark law to prohibit those manipulations. Producers, for instance, may conceal deteriorations in quality or changes in the mark ownership. Concerning trademark reputation, built through advertising, Bartow opined that "*effective advertisements can substitute investments in quality*"²²¹. As for consumer choices, those may be led by people's non-objective feelings. Thus, trademark law clearly favors producers, and any benefits to consumers are coincidental. Thus, neither information, nor quality reassurance are provided, Bartow concluded.²²²

Naser argued that utilitarian and economic justifications could not validate legal rights. Arguments on wealth maximization are artificial, since the current state of affairs only demonstrates that wealth is maximized for trademark proprietors, not for the public at large. To take into account all parties, more theory is needed that will guarantee justice for all. Like Bartow, Naser underlined that in real life not all producers offer high quality. Besides, quality is relative and is in fact a result of the trademark system, not its core basis. The scholar agreed that trademarks reduce search costs by providing useful information, but this fact cannot explain incentives for producers. Utilitarian theorists, however, use it to justify more trademark protection, without creating any limits to the trademark holder's rights. To provide a balance between the proprietor's rights and those of the public, in addition to the utilitarian theory, Naser offered to look into the social-planning theory.²²³

²²¹ Bartow, A., 2004. Likelihood of Confusion. *San Diego Law Review*, [online] 41. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=544923 [Accessed 17 April 2020].

²²² Ibid.

²²³ Naser.

Mark Janis and Graeme Dinwoodie challenged the way that Dogan and Lemley had connected the search costs theory with the trademark use doctrine. They argued that interference with consumer decision-making may happen even in non-trademark use cases, which are not covered by the search costs rationale and, therefore, not considered as infringing. The Chicago School thinks simply of consumer behavior, but it is not simple and stable, especially in the online world. Janis and Dinwoodie did not agree that more information is better: online, consumers may be overloaded with information – their search costs increase. Also, the theory fails when consumer decision-making in the Internet, particularly of less educated and affluent people, is led by “*obedience to third-party insinuations*”²²⁴ and leading intermediaries, like search engines, that influence how search results are displayed. The scholars urged to police more actions by focusing on consumer confusion and context.²²⁵

Ariel Katz agreed with the search costs approach: marks help consumers by providing information and, therefore, economizing consumer costs. The scholar called this the linguistic function. Additionally, however, he highlighted that the incentive for producers to generate and maintain quality does not only reduce search costs but also helps whole markets to exist, particularly for the experience and credence products: this trust function assists in avoiding the “*market of lemons*”, in the words of George Akerlof²²⁶, because it signals the same quality. According to Katz, the linguistic function distinguishes among products, and the trust function shows the brand’s unique attributes. Katz added that through advertising and other promotional techniques new product qualities appear and help shape consumers preferences – in this process, it is the two mentioned functions that “*work as if those were physical or otherwise objectively determinable attributes*”.²²⁷

²²⁴ Janis, M.D. and Dinwoodie, G.B., 2007. Confusion Over Use: Contextualism in Trademark Law. *Iowa Law Review*, [online] 92. Available at: <https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1361&context=facpub> [Accessed 17 April 2020].

²²⁵ Ibid. Also in Lastowka, the scholar opined that, while trademark law should not govern in such spaces as Google, it must act to limit the power of search engines that might act to the detriment of both trademark holders and consumers; he even challenged the non-applicability of trademark use doctrine to search engines: “*If Google knowingly sells advertising placement under the term ‘nike’ to Adidas in order to direct consumer traffic to the website of Adidas, it is hard to understand why Google ‘does not use that trademark as a brand’.*”

²²⁶ Akerlof, A., 1970. The Market for “Lemons:” Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, [online] 84(3). Available at: <https://www2.bc.edu/thomas-chemmanur/phdfincorp/MF891%20papers/Akerlof%201970.pdf> [Accessed 17 April 2020].

²²⁷ Katz.

The contribution of Katz approach is that he analyzed different trademark laws and doctrines from the point of view of two separate trademark functions and not just the search costs rationale – “*Beyond Search Costs*,” he titled his article. He argued that not everything in potentially infringing cases can be explained – and should not be explained – with search costs. What he implied is that while, for instance, the linguistic function can be affected by some activity, the trust function might not be touched upon. In traditional infringement cases with confusion (e.g., in a double identity case under the EU law), the infringer’s conduct harms both functions and, if the law did not intervene, the lemon problem would arise. In comparative advertising, on the contrary, no function is harmed, and a ban on such activities will increase consumer costs and decrease market efficiency (a parallel can be made with *L’Oréal v. Bellure*, criticized by scholars for this very reason – how else could consumers understand that the perfume fragrance of “*Pink Wonder*” is similar to “*Miracle?*”²²⁸). With the initial interest confusion and blurring, it is the linguistic function that can be harmed, but the activities in question shall be allowed if social gains are seen as more important than the increased search costs in the result of that harm. Finally, with tarnishment, the trust function is obviously harmed, but Katz saw few reasons to prohibit the behavior at issue, for any changes in the brand image reflect society’s cultural evolution.²²⁹

In comparative advertising, there are additional search costs for consumers of the trademark owner’s products. At the same time, the advantage for consumers, looking for other options, is present: such advertising assists in learning about alternatives. Even if one considers those imagination costs that might take place in the consumer’s mind with the existence of alternatives, the social gains of knowing about alternatives (which is important for a competitive market) are higher than a slight increase in search costs: “[U]ses of a mark should only be enjoined if the increase in search costs is not compensated for by other greater social benefits”²³⁰. According to Katz, the same logic applies to the initial interest confusion, blurring, and tarnishment.²³¹

With respect to the initial interest confusion, Katz did not agree with Dogan and Lemley on focusing exclusively on search costs – this approach might make all such cases illegal, since search costs rise with some initial confusion. If one takes trust in consideration, the conclusion will be that the trust function is not harmed at the

²²⁸ *L’Oréal v. Bellure*. Also see Kur, Bently and Ohly.

²²⁹ Katz.

²³⁰ Ibid.

²³¹ Ibid.

moment of purchase where there is no confusion anyway. As for blurring, there might be more search costs on the consumer's side, but some search costs always exist, since the market is not perfect. Simply taking into account context will remove uncertainties – this is what Katz appealed for, stressing “*the ease of correction that the relevant technology, the Internet, enables*”²³². The trust function will not be affected, unlike with tarnishment cases. While Posner considered tarnishment as a subset of dilution with its search costs, Katz disagreed and saw tarnishment from the trust function perspective: with negative information about a particular trademark, the latter “*no longer stands for what it originally did*”²³³. But the exact process of whether and how consumers associate that information with the mark is lacking from the judicial reasoning. In this regard, Katz again voted for context that may eliminate all uncertainties, while society will benefit from the transformation of the mark's meaning as a social phenomenon.²³⁴

With the search theory problems, Mark McKenna stressed that it is not capable to restrain the scope of trademark protection (that is the reason why trademark holders refer to the theory)²³⁵. McKenna urged to redirect focus from search costs and confusion onto consumer decision-making: a court should find an infringement only if, when making decisions, consumers are or at risk of being deceived and prevented “*from getting what they want*”²³⁶. Today, the US courts follow the logic that “*[c]onfusion increases search costs, and search costs are bad. End of story*”²³⁷ (dilution cases are an exception, though they fit into the search costs theory with imagination costs, according to Posner). But search costs do not always matter in decision-making: not always consumers want to reduce such costs, search is only a part of the decision-making process, and not all doctrines are explained with this theory. Trademark law does not target all kinds of confusion, nor does every confusion type affect buying decisions.²³⁸

The scholar offered to treat consumers as autonomous decision-makers, “*capable of managing most uses of a trademark [...] trademark law should not coddle*

²³² Ibid.

²³³ Ibid.

²³⁴ Ibid.

²³⁵ McKenna, M., 2009. Trademark Use and the Problem of Source. *University of Illinois Law Review*, [online] 2009(3). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1088479 [Accessed 17 April 2020].

²³⁶ McKenna. A Consumer-Decision Making Theory in Trademark Law.

²³⁷ Ibid.

²³⁸ Ibid.

consumers”²³⁹. Promoting the consumer decision-making theory, he wrote that trademark law, “committed to respecting consumer autonomy[,] should treat consumer preferences as fixed and exogenous; it should intervene only when use of a trademark threatens to prevent consumers from acting on pre-existing preferences. It should specifically decline to regulate non-deceptive attempts to shape those preferences”²⁴⁰.

From the decision-making perspective, McKenna looked deeper at four trademark doctrines, namely the initial interest confusion (relevant for keyword advertising), sponsorship and affiliation (like in *Arsenal* in the EU), post-purchase confusion, and dilution. Courts got focused on search costs too much in those cases in the US. In them, any confusion-based arguments by a plaintiff caused finding an infringement because confusion means search costs. With the initial interest confusion, “tyranny of the search costs theory is most evident”²⁴¹, but the final decision belongs to consumers, so finding an infringement could be better explained in anti-free-riding terms and the lack of trademark holder’s desire to allow information on competing products, not by the care about consumers and their costs. Only cases with significant consumer investments of time and money can justify finding an infringement. With sponsorship, arguments on possible free riding and impact on the mark’s meaning suit better, not confusion: “[U]ses that confuse consumers about other types of relationships have ambiguous effects on consumer decision-making”²⁴². Plaintiffs shall provide strong proofs of such an effect. With the post-purchase confusion, there is no impact on decisions at all, and abstract confusion shall not be the cause of action. As for dilution, imagination costs do not influence decisions as well, the scholar concluded.²⁴³

Pointing out general underdevelopment of the dilution doctrine in the US, Rebecca Tushnet contributed with an interesting standpoint: internal search costs in relation to allegedly diluted famous marks can be explained by cognitive science, but doing so would be a great mistake, leading to further expansion of trademark rights. Tushnet, in challenging the scientific explanation of search costs, stressed that it lacks taking into

²³⁹ Ibid.

²⁴⁰ Ibid.

²⁴¹ Ibid.

²⁴² Ibid.

²⁴³ Ibid.

account such factors as purchasing context, word frequency, associations, and even dilution's ability to "*improve consumers' memories for a mark*".²⁴⁴

In their turn, Deven Desai and Spencer Waller suggested that, instead of labels for source and quality, trademarks shall be viewed through the lenses of brands. Such doctrines as the initial interest and post-sale confusion as well as merchandising rights and especially dilution can be better justified from the brand point of view. For instance, rejecting any search costs rationale for dilution, the authors argued that this doctrine has already imported brand rationale into its territory.²⁴⁵

4.4 Search Costs and Trademark Functions

It can be seen that the search costs theory is quite powerful in trademark law in the US, however, its criticism is related to what is going on in the EU legal framework: trademark law in the US and EU has become a tool to protect trademark owner's rights at the expense of consumers' interests and those of other parties. Both supporters and opponents of the search costs rationale express criticism of the theory.

In this debate, one might notice a comic feature: scholars often contest some characteristic of the search costs theory simply because they have not agreed on whether there can be a minimal level of costs and what this level is. A quote from McKenna is illustrative:

*"[I]t is difficult to find the right vocabulary to criticize the doctrine once one accepts the simple version of the search costs theory. If trademark law's goal is to reduce the amount of time it takes consumers to search – and solely for the purpose of reducing the time searching, without regard for how time searching relates to consumer decision making – then no amount of search cost reduction seems too trivial. Indeed, initial interest confusion is actually a natural, logical end of a focus on length of time to search"*²⁴⁶.

²⁴⁴ Tushnet, R., 2008. Gone in Sixty Milliseconds: Trademark Law and Cognitive Science. *Texas Law Review*, [online] 86. Available at: <https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1793&context=facpub> [Accessed 17 April 2020].

²⁴⁵ Desai, D.R. and Waller, S., 2010. Brands, Competition, and the Law. *Thomas Jefferson School of Law Research Paper*, [online] 1545893. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1545893 [Accessed 17 April 2020].

²⁴⁶ McKenna. A Consumer-Decision Making Theory in Trademark Law.

Naser wrote that jurists shall define consumer search costs to make them more reliable in justifying trademark rights²⁴⁷. At the same time, a theoretical agreement on what number of seconds/minutes/etc. is acceptable is probably impossible, but the lack of it makes all debates sound scholastic.

Among other variances is the fact that Dogan and Lemley found search costs in dilution because consumers need to look further for context, while Katz mentioned that looking further for context would help consumers disambiguate. Indeed, there are different views on how consumers shall be treated – from a sovereign to a fool, according to Beebe (e.g., what McKenna suggested in his consumer decision-making theory is an autonomous consumer, coming from the US advertising law). These differences again make interpretations of the search costs theory of trademark law sound contradictory to each other. In the end, many conclusions depend on what general position a jurist takes – in Beebe’s terms, a trademark restrictionist or an apologist with different views on consumers, as a related matter.

In those search costs discussions, one cannot but see how trademark functions are dealt with: as in the EU, they can be divided into the origin function, which is tied to quality, and “new” functions, which Gangjee called the “*brand dimension*”²⁴⁸ functions; they

²⁴⁷ Naser.

²⁴⁸ Gangjee. Property in Brands: The Commodification of Conversation. One could also notice in the analysis above that there are appeals to view consumers as more independent in making their choices. One more thing that can be learnt from research is the rise of consumer as an agent theory. Gangjee followed this way of thinking in criticizing how the CJEU chose the trademark-proprietor-as-an-agent approach by absorbing all new functions under its rein. The scholar gave voice to present trends with consumers’ taking part in developing brands and, thus, deserving more opportunities for using them. Other researchers contributed, too. For example, Jessica Litman noted that consumers invert trade symbols “*with value for which they are willing to pay real money [...] [Companies] built up all that mystique with their customers’ money and active collaboration. If the customers want to move on, to get in bed with other products that have similar atmospheres, why shouldn’t they? It’s not very sporting to try to lock up the atmospherics [...] it is something people want to buy, then giving its purveyor intellectual property protection is the wrong response. If the thing itself is valuable, if it is in some sense itself a product, then we want other purveyors to compete in offering it to consumers in their own forms and on their own terms*” (Litman). Graeme Dinwoodie, in his turn, added that “*trademark law [...] must confront the postmodern reality that meaning arises from context and experience rather than from the inartistic essence of matter*” (Dinwoodie, G.B., 1999. The Death of Ontology: A Teleological Approach to Trademark Law. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press). Rochelle Dreyfuss opined that “*ideograms that once functioned solely as signals denoting the source, origin, and quality of goods, have become products in their own right, valued as indicators of the status, preferences, and aspirations of those who use them*” (Dreyfuss, R.C., 1990. Expressive Genericity: Trademarks as Language in the Pepsi Generation. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press). Danny Friedman, quoting Deborah Gerhardt, stated: “*Gerhardt argued that consumers do not use trademarks as a shorthand for the physical qualities of a product, ‘but as a way of signaling their own emotional participation and identity, which then feeds back into the meaning of the brand in a continuous loop’*”

can equally be called the “*informational function*,” on the one hand, as Dogan and Lemley wrote²⁴⁹, and the “*persuasive function*,” on the other hand, as Litman said²⁵⁰. This divide is not equal to the divide between regular marks and marks with reputation, but they are obviously related.

With all that in mind, it is now the next step to look at different voice shopping scenarios and try to predict what might be the possible treatment of trademark functions in the EU legal framework in those cases with due consideration to consumer search costs. For the search costs perspective, Dogan and Lemley’s approach is suitable: their view is traditional in the search costs theory, and at the same time it considers the overall reduction of consumer search costs, both with the help of trademarks and notwithstanding the existence of any trademark rights. This approach supports what the majority of scholars agree on – the origin function of trademarks that assists consumers in minimizing search costs. In parallel, the approach does not allow unreasonable widening of trademark rights, for it is more concerned with what consumers receive in the market from the informational point of view.

(Friedman). This discussion is one more justification for challenging the current process of propertization of trademarks by their owners.

²⁴⁹ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

²⁵⁰ Litman.

5 TRADEMARKS IN THE VOICE SHOPPING SCENARIOS

5.1 Consumer Decision-Making in Voice Shopping

Trademark law is called the most difficult and intellectual of all intellectual property laws²⁵¹, and, as attorneys Lee Curtis and Rachel Platts noted, trademark law was able to adapt to all shopping revolutions in the past century²⁵². It is possible to go back to guilds and old markets, when marks were used to “*fix the responsibility for poor quality merchandise*”²⁵³, and first describe them, but a store or a counter with a shop assistant in or behind it is a more relevant start. This assistant was an intermediary between a consumer and a product or a producer in general. The assistant could help pick a product and consult on product characteristics. The shop assistant influenced people’s opinions.

So, it all started with “*hand to hand’ methods*”²⁵⁴. Then, the first shopping revolution took place with the appearance of a supermarket and its self-service philosophy. People received the opportunity to search for products on their own by comparing products’ parameters. Consumers started to be in control of the buying decisions. However, merchants and retailers began to influence those decisions with different marketing activities, including advertising, public relations, and merchandising (e.g., by putting cheaper products on lower shelves). The likelihood of confusion began to occur more frequently. The next revolution happened with online shopping in which consumers got access to more sources of goods/services to choose from and could find them all through a search engine. In response, sellers infused their efforts with online promotions, particularly with the SEO-related ones, including keyword advertising. At that point, the initial interest confusion was on the rise. As for the third shopping revolution, it concerned social media that was added as a new angle to shopping and marketing. Trademark law is believed to have survived through those revolutions. Today, the fourth revolution is happening with the expansion of AI and its achievements, including virtual voice assistants.²⁵⁵

²⁵¹ Beebe.

²⁵² Curtis, L. and Platts, R., 2017. AI Is Coming and It Will Change Trade Mark Law. *Managing IP*, [online] year end. Available at: <https://www.hgf.com/media/1173564/09-13-AI.PDF> [Accessed 17 April 2020].

²⁵³ Diamond, S.A., 1975. The Historical Development of Trademarks. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.

²⁵⁴ Handler, M. and Pickett, C., 1930. Trade-Marks and Trade Names – An Analysis and Synthesis. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.

²⁵⁵ Curtis and Platts. AI Is Coming and It Will Change Trade Mark Law.

The word “assistant” already takes us back to old days with a real shop assistant. Indeed, given their attributes (human-like, context-led, constantly improving), voice assistants are bringing consumers to already forgotten shopping reality. Specialists in the AI-led industries compare different virtual assistants to the earlier times:

“A rich, engaging, meaningful conversation catered to the user’s needs is more likely to convert to transaction or, at the very least, identify a lead [...] Conversations offer brands a chance to fully understand customer requirements and to position their products just right. Just like in offline retail where a good shopping assistant can convert customers and upsell or cross-sell products, while an overly aggressive salesperson will likely drive customers away. Whether your brand appears to be a friendly shopping assistant or a used-car salesman will now determine your conversion rate”²⁵⁶.

When taking into account how the leading voice assistants operate by pronouncing only a couple of purchasing options in a conversational manner, it can be opined that modern assistants will most likely have a huge influence on consumer decision-making. Consumers are basically made to give up their decision-making powers²⁵⁷, while the product shelf is becoming very narrow. This narrowness is natural but alarming because of the general reduction of information available for consumers and, consequently, growth of their search costs. Also, already in the keyword advertising era, theorists saw nonsense in the fact that the proprietor’s rights expansion might make getting to the Google’s shelf more difficult than to a regular offline shelf in a store; that situation clearly caused rising search costs for consumers, particularly after consumers had experienced the vast choice online²⁵⁸. Today, the question is whether trademark law will have to change to manage related issues, arising out of the present revolution.

With the return of an intermediary between a merchant and a consumer and changes in consumer decision-making, it is necessary to be updated on achievements of modern psychology. Daniel Kahneman, the renowned psychologist and the Nobel Prize laureate in economics, made an overview of such achievements in his book *“Thinking, Fast and*

²⁵⁶ Sheth, B., 2017. Conversational Marketing: Bots Are the New Marketers. *Chatbots Life*, [online] 19 October. Available at: <https://chatbotslife.com/conversational-marketing-bots-are-the-new-marketers-80ba4a6b1b83> [Accessed 17 April 2020].

²⁵⁷ Curtis, L., 2019. In: US Patent and Trademark Office, “Artificial Intelligence: Intellectual Property Policy Considerations” Conference. United States, Alexandria (VA). 31 January 2019. [online] Available at: <https://www.uspto.gov/about-us/events/artificial-intelligence-intellectual-property-policy-considerations> [Accessed 17 April 2020].

²⁵⁸ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

Slow,” referred to by trademark scholars²⁵⁹. Kahneman introduced readers to new “actors” within every human being – System 1, which is people’s fast thinking with emotions, intuition, and automatism, and System 2, which is rational and logical slow thinking²⁶⁰. Often, in their decision-making, people make wrong choices because they use these Systems incorrectly. Decision-making in shopping is no exclusion.

System 1 is always in the automatic mode and constantly generates impressions, feelings, and intentions for System 2, which, in turn, is lazy and tends to bring what Systems 1 generates into beliefs and actions. System 2 intervenes when System 1 does not have an answer or when System 1 is about to make a mistake. This division of labor is very productive. However, System 1 is keen to make systematic mistakes in specific circumstances, and it is impossible to switch off System 1. Contemporary marketers (and even authoritarian leaders) are aware of these mistakes and take them into account. Examples of mistakes include the following ones: familiar and effortlessly perceived things seem right due to cognitive easiness to observe and understand them, though they may be wrong; good mood relaxes System 2 in its control over System 1; halo effect, in which there is some first impression of an object, influences further perception of the object, though the first impression may be wrong; there exists the “*what you see is all there is (WYSIATI)*” cognitive bias in which System 1 does not take into account absent information that may change the result significantly; when facing with a difficult question, System 1 substitutes it with an easier one that it has a reply to, thus, leaving the initial question with no answer; System 1 seeks causality in things, and it has nothing to do with statistics. People (their Systems 2) are lazy, so with no efforts, errors and misconceptions of System 1 will prevail and determine people’s behavior.²⁶¹

In the voice assistant reality, the WYSIATI bias becomes very important: there may be hundreds of buying options available, but the assistant will mention only a couple of them – how many people will later conclude that those options are leading the market? People’s laziness will be supported by the virtual voice assistant, to which one can appeal orally with no need to distract from other activities and dig deeper into the subject, particularly when buying non-expensive regular products and simultaneously cooking or taking care of a child.

²⁵⁹ See, e.g., Bartolomew. Also see Weatherall, K., 2017. The Consumer as the Empirical Measure of Trade Mark Law. *The Modern Law Review*, [online] 80(1). Available at:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3035119 [Accessed 17 April 2020].

²⁶⁰ Kahneman.

²⁶¹ Kahneman.

Additionally, there is a great role of authority in people's life. Many people will probably agree that they will buy a product because they feel obliged to the shop assistant who served them, not because they necessarily like or need a certain item. Shop assistants might act as a form of authority. Virtual voice assistants with big data behind them will be much more powerful authorities in daily lives of consumers²⁶². The famous, though criticized²⁶³, psychology experiment by Stanley Milgram demonstrated that a significant number of people obey authority in hurting other people²⁶⁴ – what will happen with obedience in less morally unacceptable matters? All the above suggests that authority that can lead people in their decision-making. With a new intermediary between a merchant and a consumer, people can be expected to share their shopping decisions as with a regular shop assistant in a physical store and even beyond that.

Apart from the automatic execution model in v-commerce, shopping through voice assistants will still continue having a consumer as a decision-maker with his/her biases. So, looking closer at consumers is crucial for trademark law, particularly given the modern trend of providing extensive protection to trademark owners.

In conclusion of this introduction, it is worth reminding that shopping, or more correctly consumption, is a process. Purchase is just one part of it, preceded by pre-purchase issues, like recognizing that a good/service is needed and searching for relevant information, and followed by post-purchase issues, like evaluating the product's quality.²⁶⁵ There are corresponding types of confusion, mentioned in Chapter 4, since market actors try to influence people's decisions on all stages of consumption.

²⁶² As Gangjee wrote, "[r]ecent successes are in part attributable to the advent of big data and improved computing power" (Gangjee, D.S., 2019. *Eye, Robot: Artificial Intelligence and Trade Mark Registers*. Forthcoming in: N. Bruun, G. Dinwoodie, M. Levin and A. Ohly, eds. 2020. *Transition and Coherence in Intellectual Property Law*. Cambridge: Cambridge University Press. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3467627 [Accessed 17 April 2020]).

²⁶³ NPR, 2013. *Taking a Closer Look at Milgram's Shocking Obedience Study*. [online] Available at: <https://www.npr.org/2013/08/28/209559002/taking-a-closer-look-at-milgrams-shocking-obedience-study> [Accessed 17 April 2020].

²⁶⁴ Milgram, S., 1974. The Perils of Obedience. *Harper's Magazine*. [online] Available at: <http://www.physics.utah.edu/~detar/phys4910/readings/ethics/PerilsofObedience.html> [Accessed 17 April 2020]. The author wrote that "even when the destructive effects of their work become patently clear, and they are asked to carry out actions incompatible with fundamental standards of morality, relatively few people have the resources needed to resist authority."

²⁶⁵ Solomon, M.R., 2018. *Consumer Behavior: Buying, Having, and Being*. 12th edition. Essex: Pearson Education.

5.2 General Comments on Scenarios

The voice shopping scenarios were developed and will be analyzed with several orienteers in mind. First, these scenarios are generally quite simplified for the sake of a bearable analysis. Second, not all of them are real; some were generated based on the industry professionals' predictions²⁶⁶. For instance, there are no advertising tools available through voice assistants yet, but things might change soon. Therefore, the last scenario will be devoted to possible advertisements in v-commerce. Third, while trademark law depends on consumer confusion and decision-making²⁶⁷, insights into the automatic execution shopping are added to generate new perceptions. Fourth, all scenarios focus on pure voice shopping with no screen to limit the number of cases for analysis. Fifth, the product brokering assistant is implied, not merchant brokering²⁶⁸. Sixth, it is assumed that routine goods are being purchased in those voice-shopping scenarios (statistical data shows that it is regular, fast-moving goods²⁶⁹ in regard to which a demand for voice shopping increases faster). As for the legal substance, seventh, it is worth reminding that the list of functions is the same for all marks. Eighth, all infringement options (double identity, likelihood of confusion, and dilution) will be commented on. However, there is no goal to analyze all elements of infringement tests. The tests will be reminded of in the next paragraph.

In the scenarios below, the proprietor's trademark can be regular or reputable. Third party's sign may be identical or similar to the trademark. As for the situation with dissimilar goods, covered by the anti-dilution provision, it might also take place. With all the infringement tests, the lack of the proprietor's consent to use the mark, the use

²⁶⁶ The scenarios below were developed with the following publications in mind: Curtis and Platts. AI Is Coming and It Will Change Trade Mark Law; Gangjee. Eye, Robot: Artificial Intelligence and Trade Mark Registers. Also see Curtis, L. and Platts, R., 2019. AI is Changing How Products are Bought and by Definition Will Change Trade Mark Law. *European IP Helpdesk*. [online] Available at: <http://www.iprhelpdesk.eu/news/guest-article-ai-changing-how-products-are-bought-and-definition-will-change-trade-mark-law> [Accessed 17 April 2020]. Curtis, L. and Platts, R., 2019. Alexa, "What's the Impact of AI on Trademark Law?" *Managing IP*, [online] May/June. Available at: <https://www.bgf.com/media/1623950/Lee-curtis-AI-article.pdf> [Accessed 17 April 2020]. Baker McKenzie, 2019. *Trademark Trends*. [online] Available at: <https://www.bakermckenzie.com/-/media/files/insight/guides/2019/trademark-trends-2019.pdf?la=en> [Accessed 17 April 2020].

²⁶⁷ Baker McKenzie. The publication mentioned that "existing law does not necessarily support a finding of trademark or other IP infringement that is independent of human actions."

²⁶⁸ Mari, A., 2020. Voice Search in the Context of Voice Commerce. *LinkedIn*, [online] 02 March. Available at: <https://www.linkedin.com/pulse/voice-search-context-commerce-alex-mari> [Accessed 17 April 2020].

²⁶⁹ The terms "fast-moving consumer goods" (FMCG) and "consumer packaged goods" (CPG) are used for products that are sold quickly and do not cost a lot of money (see, e.g., Investopedia.com, 2019. *Fast-Moving Consumer Goods*. [online] Available at: <https://www.investopedia.com/terms/f/fastmoving-consumer-goods-fmcp.asp> [Accessed 17 April 2020]).

of it by the third party in the course of trade, the use in relation to goods/services are required. Then, for double identity, besides identity of signs and goods/services, there needs to be the use that affects or is liable to affect any of the trademark functions (even functions, not listed by the CJEU). In the likelihood of confusion test, the impairment of only the origin function is required, and there shall be identity or similarity of signs and identity or similarity of goods/services. Finally, the anti-dilution test includes the elements of identity or similarity of signs, reputation of the mark, blurring/tarnishment/free riding, the lack of due cause, and “*it is less clear whether detriment to the functions of the earlier reputed mark needs to be demonstrated*”²⁷⁰.

The infringement tests include various concepts, such as the average consumer in regard to the likelihood of confusion cases or the mark’s reputation in regard to the anti-dilution provision. It is not needed to go into details with respect to them; otherwise, it will take tens or hundreds of pages of explanations. What matters in the thesis is how the functional analysis of trademarks is or may be conducted for each test in different voice shopping scenarios. Moreover, such concepts as those familiar to the US legal framework, including the initial interest and post-sale confusion, while being not absolutely necessary in the EU realities, will be kept in mind in this analysis.

5.3 Exact Match Scenario

If everything goes smoothly, the consumer, while voice shopping, pronounces the brand, which is a registered trademark. The voice assistant finds the exact match from the mark’s right holder, the consumer approves, and the assistant concludes the purchase by initiating the money transaction and shipment. However, due to, for instance, imperfections of the brand protection mechanism on the marketplace where the voice assistant “purchases” a product, deficiencies in the consumer’s speech or his/her inattentive listening, as well as flaws in the assistant’s speech recognition and pronunciation skills, the assistant might suggest and the consumer might approve purchasing a potentially infringing product – double identity, likelihood of confusion, and encroachment on the trademark with reputation rights could all be applied.

This scenario sounds quite ordinary. However, the key difference is that there are no visuals: consumers decide to purchase a product with no images. Slightly similar thing does happen offline: when people are in a hurry in a supermarket, they grab a familiarly

²⁷⁰ Bomhard, V. and Mühlendahl, A., eds. 2018. *Concise European Trade Mark Law*. [e-book] Alphen aan den Rijn: Kluwer Law International. Available at: <https://books.google.ru/books?id=Do6WDwAAQBAJ&dq> [Accessed 17 April 2020].

looking package without focusing on the product appearance and recognizing their mistake only at home. With voice shopping, the mistake might also be recognized later. Anyway, the decision to buy is made by the consumer upon hearing the purchasing option from the voice assistant. In this process, consumer's attention may be reduced by different factors, like simultaneously cleaning the apartment, as well as by the fact that brand protection mechanisms of the voice assistant owner are actively advertised, thus making consumer trust the assistant much more. System 2 is definitely less attentive than in an uninterrupted state of mind, so System 1 may impose its biases. The point-of-sale confusion is involved.

In double identity, counterfeit goods are obvious examples (other examples include comparative, misleading, and keyword advertising, not relevant for this scenario, as well as parallel import, commented on below)²⁷¹. Today, the AI-based tools are used to combat illegal activities on marketplaces, including sales of counterfeits. For instance, these tools are used to stop product placement on a marketplace before its seller provides more information²⁷². But that does not exclude counterfeits completely.

Cases with counterfeits seem clear from the function theory point of view: the origin function is at stake, because consumers will perceive counterfeit goods as coming from the mark's owner (except for the honest concurrent use). The relation between consumers' experience with genuine goods (and those goods' quality), on the one hand, and expectations from future purchases of the same products, on the other hand, will be interrupted. Consumers will need to spend more time looking for parameters to distinguish between genuine goods and counterfeits. As for the quality function, the other side of the Katz' linguistic-trust coin, it might also be harmed: the right holder has no influence on quality of third parties' products, sold under the proprietor's mark.

Already from the short analysis above, it can be concluded that the origin and quality functions are indeed very interrelated. The quality function has not been defined by the CJEU, but the court regularly mentions it with respect to origin. When one thinks about trademarks in their basic form, it is obvious that consumers want to quickly find products from the same source as earlier or as recommended. Consumers might not know the exact source, but they have an impression of some constancy in that regard

²⁷¹ Ibid.

²⁷² Northcott, N.B., 2019. In: US Patent and Trademark Office, *"Artificial Intelligence: Intellectual Property Policy Considerations" Conference*. United States, Alexandria (VA). 31 January 2019. [online] Available at: <https://www.uspto.gov/about-us/events/artificial-intelligence-intellectual-property-policy-considerations> [Accessed 17 April 2020].

(though trademark owners, as demonstrated in Chapter 4, do not tend to inform and have no obligation to inform about changes in the mark ownership). Consumers look for the same source because they expect constancy with respect to quality, too.

With double identity, harm to the origin function is implied. If the origin function is negatively affected (with consumer search costs increased), harm to other functions, including that of signifying quality, is not necessary, but those functions may be referred to by the mark's owner to be more persuasive. The "new" functions, besides that of guaranteeing quality, include communication, advertising, and investment functions. The three latter terms relate to the brand vocabulary with its meanings, symbols, lifestyles, etc. If trademark proprietors believe that these functions are also at stake, they have to make relevant arguments. Proprietors shall prove that they created something for the mark to bear more functions than the essential one²⁷³. If the proprietor contributed to such developments, those functions might be accepted, but what if in the postmodern world an emphasis will be made on contributions from consumers into the transformation of a mark into a brand? As already mentioned, without any confusion as to origin, it would be unjust to grant protection to the right holder for those new functions in double identity cases.²⁷⁴ But this is the question that shall be decided on a policy level.

Advocate General Miguel Poiares Maduro noted that the "new" functions are the same for regular and reputable marks. It is so because these functions are there to protect investments and innovations, relevant for all marks. However, the level of protection differs depending on the level of reputation: maximum protection is given to reputable marks (they are covered by the anti-dilution provision); regular marks in double identity cases receive middle protection (any of the trademark functions can be affected); at the bottom of the range is the likelihood of confusion situation (the essential function is the core here, but *"the other functions of the trade mark can be affected only in very specific cases, yet to be defined by the Court"*²⁷⁵). Thus, investments into regular marks are recognized under double identity, and they obviously differ from larger investments into the marks with reputation (at this point,

²⁷³ Jeremy on IPKat, 2015. The Burden of Proof in "Double Identity" Trade Mark Disputes: Rising to the Supreme Challenge. *IPKat*, [online] 24 February. Available at: <http://ipkitten.blogspot.com/2015/02/the-burden-of-proof-in-double-identity.html> [Accessed 17 April 2020].

²⁷⁴ See Gangjee, D.S. Property in Brands: The Commodification of Conversation.

²⁷⁵ Advocate General's Opinion. *Google France*.

one cannot but think about the questionability of protecting investments in double identity given the existence of the anti-dilution clause).²⁷⁶

To continue with the scenario analysis, consumers might also buy genuine products, which originate from the proprietor but have not been imported to the EEA territory with the proprietor's consent. Parallel import itself is prohibited in the EU legal framework – the regional exhaustion principle exists in the EU. The earlier developed CJEU logic will apply. While the origin function, or any other possible function, is hardly in fact affected, because the goods are coming from the right holder, the CJEU implicitly considers the essential function to be harmed by parallel importation²⁷⁷. Challenging this approach shall be a separate analysis. Again, harm to the essential function is presumed in double identity and is enough for finding infringement. However, from the search costs perspectives, consumers are well off with the illegally imported goods of the trademark holder: for instance, if a certain product is not sold by the mark proprietor in the EEA, but European consumers are aware of it, their search costs are reduced with parallel import – they do not need to look for a product in a different market and organize a private shipment of it but can just buy a parallel-imported product locally. At the same time, due to market differentiation by trademark proprietors, goods aimed at non-EEA markets might differ in their quality from those aimed at the EEA – if the former are imported to the EEA without the proprietor's consent, in the eyes of consumers, the mark's quality function might be negatively affected (anyway, this is due to the mark proprietor's behavior, so this negative result cannot really justify trademark protection, but parallel importation is a totally different story). As for other possible functions, since the CJEU lets the mark's holder decide on how to first introduce its products to the EEA, it includes not only the solution whether to sell the products, but also how to do that²⁷⁸ – so, other functions might also be touched upon.

There are AI-based tools that can find similar brands – such tools are already used in the trademark registration process to reveal possible oppositions²⁷⁹. However, nothing stops businesses to utilize them in brand protection schemes. At the same time, evaluating possible clashes in registration context is different from that in the possible infringing situation – with the latter, *“human analysts, with the experience to draw*

²⁷⁶ Ibid.

²⁷⁷ Senftleben. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function.

²⁷⁸ *Mitsubishi*.

²⁷⁹ Gangjee. Eye, Robot: Artificial Intelligence and Trade Mark Registers.

*these distinctions, remain integral*²⁸⁰, since too many real-life peculiarities need to be taken into account (not pure information on a register, as in a vacuum). In v-commerce, it is quite obvious that pronounceable word marks will be of growing importance – if the AI-based tools succeed in hearing consumers’ speech, correlating the consumers’ requests with databases of products, and then clearly pronouncing the products’ names, the second type of infringement, i.e., likelihood of confusion, will be minimized. But, again, not removed completely.

The likelihood of confusion test includes a number of concepts: the signs’ identity/similarity shall be analyzed from visual, aural, and conceptual perspectives – obviously, the focus in v-commerce will be on aural similarity; the products’ identity/similarity shall be reviewed – since consumers will pronounce the good that they are interested in, i.e., they understand what they need, there will probably be more product identity cases than those with similarity. Perception of the average consumer²⁸¹ will still be of significance, because it is consumers who pronounce the brand (maybe even with mistakes), then hear the proposed option, and react based on it. Finally, the global assessment will be necessary to conclude whether there is likelihood of confusion – if consumers can think of a product coming from the right holder or the entity related to the right holder (direct and indirect confusion, correspondingly²⁸²). If yes, the origin function will be at stake; consumer search costs will rise as in double identity. Other functions, even related quality (though obviously affected), are not of importance for this test at all.

Interestingly, brand protection techniques on marketplaces, referred to above, may not be able to distinguish between regular and more specialized products, between fast- and slow-moving goods to assess the level of attention for the normative average consumer construct, thus recommending to the consumer an infringing good. Also, due to the fact that in the likelihood of confusion cases there are a lot of borderline situations, the legal scales may incline stronger to the proprietor’s side: System 2 in

²⁸⁰ Ibid.

²⁸¹ Dinwoodie, G.B., Gangjee, D.S., 2014. The Image of the Consumer in European Trade Mark Law. *Oxford Legal Studies Research Paper*, [online] 83/2014. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2518986 [Accessed 17 April 2020]. The authors summarized that the average consumer, among other well-settled characteristics, is “*reasonably well-informed and reasonably observant and circumspect*,” he/she “*perceives a trademark as a whole and retains only an imperfect image of it*,” pays attention to “*predominant and distinctive components*” in a mark, and his/her “*level of attention will vary according to categories of goods and services under consideration*.”

²⁸² Bomhard and Mühlendahl.

consumers' minds will work less effectively, so the origin function will be at more risk. But shall law allow consumers to become more fool in the new setting and, therefore, provide more protection to right holders? All these issues demonstrate how interdependent and complicated the v-commerce issues will be.

Finally, despite the fact that the function-related terminology is missing from the anti-dilution test, anti-dilution laws exist to mostly protect investments²⁸³. Both investment and advertising functions might be harmed in the case with reputable marks (these functions can be united, since investments often go for advertising campaigns; besides, the CJEU mentioned that investments cover advertising, along with other techniques²⁸⁴). From the search costs perspective, these functions might be negatively affected, for consumers' imagination costs increase (this conclusion is made if one follows the traditional economic theory approach).

Furthermore, with blurring, if the mark is used for similar or dissimilar goods²⁸⁵, the origin function might also be at stake – the mark's distinctiveness will be lowered, search costs for consumers will rise. With tarnishment, if negative connotations with a mark are involved, the quality function might be additionally harmed, according to Katz. The investment function is related to the unfair advantage construct, too; however, in accordance with *L'Oréal v. Bellure*, with unfair advantage, no detrimental effect on the distinctive character or the reputation of the mark or its owner is actually needed – so, “*it is not required [...] that any of the functions of the invoked mark are affected where unfair advantage is concerned*”²⁸⁶.

To conclude, there might be a mark with reputation, but in the simple scenario under analysis, typical examples of blurring, tarnishment, and free riding are not probably present (they might be in the way the package looks like or the product advertisement works, which is not relevant for the analysis). It is, however, worth mentioning in regard to the brand protection mechanisms on marketplaces that “*AI algorithms are presently unable to identify conflicts on the basis of trade mark dilution [...] The*

²⁸³ Bomhard and Mühlendahl.

²⁸⁴ *Interflora*.

²⁸⁵ A consumer might deliberately search for dissimilar goods under the brand that uses someone else's reputation.

²⁸⁶ Bomhard and Mühlendahl.

*seductive appeal of the all-seeing algorithm should be resisted, since a range of conflicts beyond likelihood of confusion [...] is also possible*²⁸⁷.

What brings harm to the functions of the proprietor's trademark is the marketers' conduct. With respect to the voice assistant, if its owner equals the retailer that sells goods, the conclusion about the negative effect of its behavior will be identical. However, if the voice assistant is the tool of a larger platform (like Google in *Google France* or eBay in *L'Oréal v. eBay*) that unites marketers and consumers, even if the fact of pronouncing the infringing sign by the voice assistant will be considered trademark use, actions of the assistant's owner should not be deemed negatively affecting any of the trademark functions due to the importance of such new platforms and the means of connecting market players that they provide.

5.4 Broad Match Scenarios

This group of scenarios includes the following one: while voice shopping, the consumer does not pronounce any brand, but simply asks the assistant to buy a certain product. The consumer lists no particular parameters of the product. As a result, the assistant gets no referencing point from the consumer and only uses its recommendation algorithm. For the sake of analysis, it will be presumed that a possibly infringing product is recommended with the product's brand being taken into account. The assistant pronounces the product's name, and the consumer approves it.

In this scenario, the consumer's role is only to express his/her interest in some product with no relation to brands at all. The AI algorithms in various voice assistants will differ in how they approach such a request. For instance, Alexa may suggest the Amazon Choice product or its top search result. In the end, some product will be recommended with orally pronouncing its brand. Outside the voice-shopping context, the recommended product may be infringing on the proprietor's rights based on any of the three tests with the relevant related functions touched upon, as described in the previous scenario. So, this is also a traditional scenario with the only exception that the consumer does not see anything and does not ask for a specific brand. The point-of-sale confusion takes place, for the consumer hears the brand and makes certain connections in his/her mind (e.g., with similarly sounding brands that he/she already knows).

²⁸⁷ Gangjee. *Eye, Robot: Artificial Intelligence and Trade Mark Registers*.

Another situation for the described broad match scenario may be that the consumer does not pronounce any brand, but simply asks the assistant to buy a product based on some parameters – in the end, it is product characteristics that people look for in products, particularly in regular, fast-moving ones. In this process, the assistant chooses a product on the basis of those parameters and pays no regard to brands at all. The consumer approves the purchase with hearing the brand or without hearing any brand. In the latter case, the consumer perceives the brand only when the product is delivered. The product might appear to be infringing.

One more scenario might be the following one: if the consumer earlier purchased some product and later initiated a broad search without mentioning any brand or even parameters (as for Walmart, the consumer might just ask something like “buy orange juice”²⁸⁸), the assistant will match the search request with the consumer’s purchase history. However, ordering the earlier bought product may not be possible, and the assistant substitutes it with the one that it considers appropriate for the customer based on some internal algorithm. The final product is infringing²⁸⁹. Again, the consumer approves the suggestion with the assistant pronouncing the brand, or the consumer perceives the brand only upon delivery.

The options without pronouncing any brand by the assistant in these additional scenarios are worth more comments. People who do their shopping today through voice assistants with no visuals have already voted for less market information and more guidance (as it is known, the voice assistant announces only a couple of options, generated by its internal algorithm and not by pure instructions from the consumer). It involves risks; that is why regular goods are more popular for buying in such a setting, since the cost of making a mistake with buying a glue or printing paper is lower than with buying a sofa. But there are people who are ready to make the next step and trust the assistant in making the choice based on parameters, including customers’ reviews.

As it was mentioned many times in this thesis, trademarks exist to lower consumer search costs: it is faster to pronounce and comprehend one word than a list of characteristics, it is also faster to compare products with different marks on them. But what if there is someone – not an old version of a shop assistant, but a powerful AI

²⁸⁸ Schwartz.

²⁸⁹ Also, as Gangjee noted, “[a] platform’s virtual assistant or AI-powered recommendation system – think Amazon or eBay – might respond to a search query by suggesting an infringing product, based purely on statistical correlations relating to past searches on that platform” (Gangjee. *Eye, Robot: Artificial Intelligence and Trade Mark Registers*).

machine – “who” is capable of quickly perceiving the incoming information on the product’s parameters and finding matches in its database? The consumer still spends his/her time on describing those parameters instead of a short trademark, but in the modern world, trademarks may lie about the product’s quality behind them. There might actually be fewer costs to pronounce the parameters and get the perfect result than buying the product with a familiar mark, realizing its decreased quality, and trying to switch to a different brand. This perfect result has already occurred in the keyword advertising era when a well-targeted advertisement, generated by a search request in Google with the use of the proprietor’s mark as a keyword, better suited the consumer’s needs than any of the natural results with respect to the proprietor’s products. As Dogan and Lemley noted, “[t]his isn’t necessarily evidence of confusion, however; it may reflect consumers finding what they are looking for in an ad rather than in a search result. If so, a law based on reducing consumer search costs should not be concerned”²⁹⁰.

With changing quality, customers’ reviews may be a necessary parameter to be announced to the voice assistant – and every time other parameters are also listed, the result might change. Earlier, people recommended a brand (trademark) to a person who could easily find it thanks to markings – consumers were buying the same trademarked product every time. Today, people recommend products, but since quality might change and products of better quality appear, consumers may end up buying different goods every time they announce a parameters-and-reviews-led search request to the assistant. The continuation for this scenario is regular automatic shipments of products based on parameters, defined by the consumer in advance within his/her account on a marketplace.

If the voice assistant announces no brand, there can be no confusion at all during the purchasing process. Systems 1 and 2 of the consumer’s mind do not have to deal with the search setting, except loading the voice assistant with parameters of interest. The product brand is not a part of the search request and results. In the end, the consumer perceives the brand (trademark) only upon delivery, but does it matter? Does anything harm trademark functions in this situation?

Search costs, reduced in the situation under analysis, have nothing to do with trademarks. Indeed, the purchased product itself in a regular commerce setting might

²⁹⁰ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

be in fact infringing upon the trademark proprietor's rights under any of the three tests. However, within the purchasing process no confusion could have taken place, so no harm to the origin function occurred. Other functions could not be in any way affected because of the buying setting (as a comic side note, the quality function might be in fact improved, since the purchasing result may be the AI-led choice for the best possible combination of parameters, including customers' ratings). However, the consumer will perceive the infringing product upon delivery, and certain deductions can be made by the human mind (e.g., on the similarity between the sign used and a different brand). These conclusions may influence the consumer's and other people's behavior later on (other people's conduct is related to the post-sale confusion). It can be opined that these later implications should not contribute to finding any infringement within the described setting. If the product is indeed infringing under any of the tests, this will be found in different shopping setting, not in the one above. Consumers, who chose to shop in this new setting with the parameters-and-reviews-led requests to the voice assistant, are ready to shop irrespective of marks at all. The brand dimension of marks is also not important for them. They sacrifice that in exchange of moving search costs to the assistant.

In the described shopping setting, more market information is taken into account and it is done much faster than in all previous settings, particularly with the old-time shop assistant, limited by human capabilities. Information might have finally got under perfect control (given the AI-based tools are ethical).

5.5 Reference Brand and Advertising Scenarios

What if the consumer does not have a clear brand preference and asks the assistant to "find something like [a different brand]?" Then, the assistant recommends a product choice based on some relation of it with "[that different brand]," or a reference brand. The assistant might recommend a possibly infringing product. The consumer approves it with the assistant pronouncing the brand, or the consumer perceives the brand only upon delivery. This scenario is related to a possible advertising scenario, in which the voice assistant interrupts the exact match search process (a brand of interest is specified by the consumer) and pronounces an advertisement (automatically or upon the consumer's approval). The advertisement is related to the consumer's purchasing request, probably via keywords.

The search request “find something like [a different brand]” as such does not sound impossible with the conversational language of voice assistants and ability of the AI-based tools behind them to comprehend colloquial speech. As for advertisements, specialists do not exclude its appearance in v-commerce in the future²⁹¹. The two scenarios are united into one group, for in these cases, the voice assistant presents to its consumer a broader voice shelf with relevant shopping options. Besides, the algorithm behind the assistant will need a reference point in both scenarios: with the consumer’s explicit request for alternative choices, there might be a recommendation algorithm (though often in a “black box”) that takes brands into account; with advertisements, traditional keywords may be used as in search engine advertising. Already today, legal professionals ask if the keyword advertising cases’ approach will be used to address infringements within voice shopping²⁹².

The legal conversation about keyword advertising was related to providing alternatives to consumers – this justifies using a trademark as a keyword by a merchant and providing the opportunity for doing so by a search engine. In cases with no use of trademarks in the proposed choices or advertisements (including with no implications about marks), these new choices and advertisements clearly provide alternatives for consumers, reducing their search costs. In the voice assistant settings, it is even more evident that these items are just relevant options – the consumer either explicitly asks the intermediary for alternatives (for the thesis’ author, the frequent search request in Google is “[brand] [product] alternative”), or the consumer is asked/warned about the upcoming advertisement (even in the absence of it, the advertisement will likely be different from the way the voice assistant speaks, e.g., because of a different voice or due to the fact that the assistant suggests something that it was not asked about).

Trademark scholars brought the issue of relevancy to attention. Dogan and Lemley advocated for the promotion of relevancy by law, because relevancy is tied to the reduction of search costs; they argued that merchants put their products closer to each other to be relevant and show alternatives and cannot be punished for that under trademark law, neither can intermediaries that help merchants do that²⁹³. Goldman, as

²⁹¹ Welcher, E., 2019. Alexa, What Is the Future of Paid Voice Search? *Hero Digital*, [online] 08 January. Available at: <https://herodigital.com/perspectives/future-paid-voice-search> [Accessed 17 April 2020].

²⁹² Baker McKenzie.

²⁹³ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet. The authors pointed out that “*by limiting trademark claims to those who themselves use marks in a way that suggests some affiliation between themselves and the trademark holder (and to others intimately involved in their infringing activities), the law ensures that information facilitators, publishers, and others who bear only*

specified in Chapter 4, even opined for the inclusion of relevancy into the likelihood of confusion test²⁹⁴.

So, in providing pure alternatives by voice assistants (or marketplaces in general), as in the described scenarios, there cannot be any encroachment on any trademark functions. As for the origin function, consumers cannot assume any links between the trademarked goods, used as a starting point, and the recommended or advertised goods. Dogan and Lemley's example is illustrative: if products are on one shelf, it does not mean they are coming from the same source and it does not mean that the supermarket shall be liable for putting those products on that shelf²⁹⁵. With the broad online shelf and narrow voice shelf, that relevancy-led principle is also important: consumers need to find information, and algorithms or keywords, acting as connectors, help bring relevant information to consumers to help satisfy their needs and reduce search costs. Concerning the investment and advertising functions, using trademarks as connectors cannot harm the mark's ability to attract and maintain consumers or its ability to promote the trademarked products. Otherwise, the mere fact of mentioning the trademarked product in a newspaper or in some encyclopedia might do it. Any imaginations costs are outweighed by a more significant reduction of search costs by the knowledge of alternatives. With respect to the quality function, one can visualize the following: a consumer makes a voice request to the assistant with some negative connotations or even abusive words, and the assistant, which understands colloquial speech, automatically ties the request with a trademarked good – will it be a tarnishment case? If yes, market will be a very limited environment, in which undistorted competition and promotion of freedoms are hardly possible. Thus, the trademark in these scenarios is only a trigger for the voice assistant to demonstrate a broader but relevant voice shelf to the consumer.

In the EU, while the CJEU admitted that merchants do conduct use as a trademark when choosing a trademark as a keyword in the search engine advertising, the court did not come to the same conclusion in regard to search engines themselves – with no use,

a tangential relationship to trademark infringement can go about their business without the responsibility of having to police all of the parties with whom they have commercial relations [...] the courts have resolved these hard cases in favor of the defendant, withdrawing trademark protection entirely in cases in which doing so facilitates search for the majority of consumers, or where it ensures competitive access to particular product markets. In other words, when market access and competition run in tension with the trademark holder's interests in protecting its product-associated goodwill, the competitive interests generally trump."

²⁹⁴ Goldman.

²⁹⁵ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

the functions analysis was not even performed by the court. The trademark use doctrine became an immunizer with no real-life conditions taken into account. Advocate General Maduro, however, in his analysis, found use on the search engine's side but concluded about the lack of a negative effect on any of the functions²⁹⁶ – this approach may be seen as a more flexible one, including for the purpose of limiting search engine's conduct if it becomes necessary. The function theory is an appropriate flexible mechanism to limit the trademark holder's attacks and provide more information to consumers, thus, reducing their search costs, and, if necessary, to work the other way around: with the use in place, the theory can assist in finding a negative effect on one of the functions and satisfy, e.g., the double identity test. Thus, with the function theory, due account is given to market context.

When discussing the current rise of AI, Gangjee noted that “[t]he answers to infringement questions may turn on how the results of the search are presented to consumers, as opposed to how the AI internally processes the trade mark. Where product recommendations are provided with suitable clarifications and qualifications, they should be permitted. Where they are misleading or ambiguous, they are likely to be infringing”²⁹⁷. Indeed, if a trademark is used in any way in the choices, recommended by the assistant, or in advertisements, the analysis shall focus on those uses, but they cannot be automatically infringing. Questions arise in this regard: will there be the initial interest confusion in voice shopping, and can it be overcome?

In answering those questions, one needs to keep in mind that in traditional online cases, including with keyword advertising, switching costs are “trivial”²⁹⁸ and context can help consumers “disambiguate”²⁹⁹. As Katz noted, some search costs always exist, but context – or a simple question to receive clarification – may help handle such confusion as that with the initial interest³⁰⁰. Interestingly, Lastowka stressed the less amount of context available in the online world in comparison to the offline trade (that is the reason the scholar appeals to policing Google with trademark law)³⁰¹. In v-commerce, with its limitations, there is even less context than in “Google’s Law” by

²⁹⁶ Advocate General’s Opinion. *Google France*.

²⁹⁷ Gangjee. *Eye, Robot: Artificial Intelligence and Trade Mark Registers*.

²⁹⁸ Goldman.

²⁹⁹ Katz.

³⁰⁰ *Ibid*.

³⁰¹ Lastowka.

Lastowka³⁰² – does it mean that the law should care about consumers more, or will a regular consumer be capable of asking the voice assistant a simple question about the product, and will the assistant be trained to interrupt the purchasing process and handle the consumer’s inquiry? Why not – all the said, while bringing some costs to the consumer, does not seem too complicated, but policy issues on how to approach a consumer – as a sovereign or a fool – definitely arise at this point.

Janis and Dinwoodie urged for more policing of Google, because in the era of intermediaries and information overload, these powerful actors may manage the information flow in their interests, while trademark law “*has never been based on the notion that the maximum amount of information flow is optimal for consumers. Trademark law is intended to foster accurate and helpful information*”³⁰³. The theorists wrote it more than ten years ago, and the world has changed: the voice assistant is substituting the information overload with just a couple of verbal options. This setting might seem to be poorer from the information perspective than in the old era with shop assistants, but that should not be the case. Today, the shopping results might not only be in favor of the marketplace that owns the voice assistant (as with the marketplace’s private label products), but they also may be perfect, or relevant, to consumers, given the big data behind the virtual assistant and the whole marketplace.

Therefore, consumers may not need to look for clarifications in cases with no trademark use in the recommended choices and advertisements – there will be no initial confusion, as consumers will receive a perfect-fit alternative to the pronounced trademark. Search costs will be minimal, while effectiveness will reach maximum. Voice shopping will make people’s lives easier. From this perspective, one must appreciate the social good from the AI-based tools.

As for cases with trademark use in the suggested choices or advertisements, some of them will fall under the existing safe harbors (e.g., comparative advertising and referential uses), but obviously infringing cases might not provide enough options for consumers to disambiguate and get rid of any initial confusion. While such confusion in e-commerce could go away upon visiting the seller’s website, in the voice environment, it will happen more rarely. These infringing cases shall cause trademark liability on the merchant’s side, as specified earlier for the exact match scenario.

³⁰² Ibid.

³⁰³ Janis and Dinwoodie.

5.6 Voice Shopping and Reduced Trademark Functions

From what was said above, one may conclude that trademark functions are better divided more generally into the origin/quality functions, on the one hand, and goodwill functions, on the other hand, focusing on investments that may cover advertising as well as communication as results of those investments. The former group of functions is the basis, while the latter is the addition that, if proved, might generate grounds for further protection. With imperfect lists of functions and their inaccurate definitions, it might be better to just understand the contours and not create exact borders.

Today, the double identity situation theoretically permits harm to any function, either described by the CJEU or not; this fact is criticized, and scholars even suggested limiting double identity to the origin function exclusively, in order to restrain growing trademark rights³⁰⁴. The likelihood of confusion situation concerns the origin function. For reputable marks, the function theory is not even an issue. So, the problem exists in the fact that regular marks are protected with respect to affecting their “new” functions, usually tied to reputable marks, with no “due cause” provision to balance interests of all parties, and marks with reputation are protected even if no function is touched upon (particularly in cases with unfair advantage).

The CJEU cases on the function theory often concerned marks with reputation, therefore the “new” functions discourse was relevant for them. But, as Advocate General Jääskinen mentioned in *Interflora*, the functions-led analysis may lead to the conclusion that regular marks are protected from blurring, tarnishment, and free riding, too. He suggested, though, handling those phenomena only under the anti-dilution provision³⁰⁵. Still, the discussion shows that because of flaws in the function theory, excessive protection is now possible for both groups of marks, regular and reputable. That is why, as demonstrated in Chapter 3, scholars urged to balance trademark rights, powered by “new” functions, against interests of third parties – with one of them being the consumers’ interest in accessing relevant information to economize on search costs.

In v-commerce, there are traditional infringement situations with familiar effects on trademark functions and consumer search costs. As for the option with searching by parameters and no hearing the brand name, there shall not be any effect on trademark

³⁰⁴ See, e.g., Senftleben, M. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function.

³⁰⁵ Advocate General’ Opinion. *Interflora*.

functions – search costs are economized by the new shopping architecture, not trademarks, and this architecture shall be promoted for greater social good. In regard to the voice shopping scenarios with suggested choices and advertisements, it might be covered by argumentations from the keyword advertising era. Yet, right holders might claim that they want to control how their products are recommended and purchased, and the search costs rationale may help in addressing such claims, i.e., by focusing on shopping which is free from any unnecessary restraints and capable of guaranteeing information availability.

It is difficult to apply the function theory even to already familiar situations because of no clarity in it and the lack of any uniform approach to each function or group of functions. The theory is still useful, since it helps bring context into the infringement analysis – a case-by-case analysis with market realities and consumer behavior, which is so desired by trademark scholars, becomes possible. However, in doing this, the search costs perspective, though criticized, may be useful as well. By approaching each function or a group of functions from the same basis, it helps focusing on general reduction of consumer search costs and, thus, promotes the freedom of information as well as that of competition; if information is freely available, consumers can make better choices and competitors can inform about their presence in the market³⁰⁶.

³⁰⁶ Dogan and Lemley. Trademarks and Consumer Search Costs on the Internet.

6 CONCLUSION

This thesis discussed the EU trademark function theory. Along with the use requirement and other rules, the theory is a part of the infringement test within trademark law. On the contrary, the search costs theory is, in the true sense of the word “theory,” the way of thinking about trademark law from the outside. Just like the search costs theory is utilized to approach trademark law concepts, e.g., dilution, it can also be used in reflecting on trademark functions.

From the performed analysis, it can be deduced that many concepts, tests, notions, etc. in the EU law are interrelated. For example, a discussion on trademark functions could not but touch upon the concept of dilution. Though the thesis is not devoted to dilution, the function theory with regard to investments and advertising must have covered trademarks with reputation, earned through investing into advertising and other promotion techniques.

The search costs theory was chosen to be a common denominator for trademark functions. It helped look at ill-defined functions from one point of view. The search costs theory of trademark law is not perfect, but it assisted in checking how trademark functions might be affected in the new voice shopping reality. It is a trusted and widely accepted perspective, with even the theory’s critics supporting its justification of the origin function of trademarks and costs reduction due to information availability.

The thesis is in fact opening the veil into the law and technology conversation. Law is one of the constraints on life, along with cultural norms, market rules, and the way in which life is organized, i.e., its architecture (e.g., the laws of physics and today a computer code)³⁰⁷. Technology is creating a new architecture of shopping with a narrow voice shelf, fewer advertisements (if any), colloquial speech, intermediary that keeps in mind huge amount of personalized data, and perfect buying options, purchased and shipped immediately without announcements of what exactly was purchased. The new architecture might be also changing the way law is applied.

In 2018, Barton Beebe and Jeanne Fromer published a study, aimed to demonstrate the current exhaustion of good trademarks and its subsequent trends in the form of trademark depletion (there are fewer and fewer words unregistered as trademarks) and

³⁰⁷ Lessig, L., 2006. *Code: Version 2.0*. [e-book] New York: Basic Books. Available at: <http://codev2.cc/download+remix/Lessig-Codev2.pdf> [Accessed 17 April 2020].

trademark congestion (there are more and more words that are simultaneously registered by different holders); as a result, there exist many different products under the same name (they all may appear on one Google page), and new business ideas today demand inventing significantly more different names (which may be long and not very attractive) to guarantee a successful trademark registration³⁰⁸. As a response, Lisa Ouellette suggested that the reaction to these trends might be not a trademark law reform but a change of perspective. For instance, she wrote:

“If consumers have trouble keeping track of the exploding number of craft beers, they can keep track of favorites with the Untappd app – including by scanning barcodes rather than searching by name. Consumers can scan barcodes or take pictures of other products to see reviews and prices with shopping tools such as the Amazon app. The drawbacks of longer brand names also are less significant if consumers simply search for the desired product type using websites like Amazon or Google and then choose a product based on its prominence in the search results, giving them little reason to pay attention to the brand name”³⁰⁹.

It is the essential function of trademarks that is underlined in all of the above: marketing professionals stress the growing importance of “push marketing,” aimed at effectively selling a product through a platform, not “pull marketing,” focused on consumers’ persuasion in regard to buying that product³¹⁰. But it was demonstrated in the thesis and in the quote from Ouellette that a trademark might not even matter in highly relevant search results.

Thus, this thesis helped rethink the trademark function theory by approaching it from the search costs perspective in v-commerce. The majority of analyzed voice shopping scenarios were familiar and posed known challenges to trademark law. The conclusion was the necessity to simplify the function theory for the sake of its better application in the future. At the same time, a new challenge – that to the essential function of trademarks – was revealed. Remarkably, with the disappearance of a trademark, it is not the law of trademarks that helps reduce consumer search costs. So, it may be a useful reminder to concentrate on the reduction of costs themselves, not the reduction

³⁰⁸ Beebe, B. and Fromer, J.C., 2018. Are We Running Out of Trademarks? An Empirical Study of Trademark Depletion and Congestion. *Harvard Law Review*, [online] 131(4). Available at: <https://harvardlawreview.org/wp-content/uploads/2018/02/945-1045.pdf> [Accessed 17 April 2020].

³⁰⁹ Ouellette, L.L., 2018. Does Running Out of (Some) Trademarks Matter? *Harvard Law Review Forum*, [online] 131. Available at: https://harvardlawreview.org/wp-content/uploads/2018/02/vol131_Ouellette.pdf [Accessed 17 April 2020].

³¹⁰ Dawar.

through trademark law. Trademark law is just one of the options, and it shall not be overused.

At the same time, it is necessary to keep in mind that there are people who will still enjoy shopping with searching for options, reflecting on them, choosing among them. Some buyers want to bear those search costs, for shopping is a pleasant process that those people are not ready to give up. Moreover, there are consumers who need to show off with a particular brand – Thorstein Veblen's conspicuous consumption is in action with such consumers, and the trademark's brand dimension is in full force.

This thesis revealed one more time the necessity to define from what standpoint one looks at trademark law: does he/she vote for anti-dilution protection or not, consider consumers as sovereigns or fools, chooses to immunize big platforms or not, etc.?

However, voice shopping in general causes other challenges to trademark law. Increasing the role of word marks, new technologies do not offer a perfect solution to check similarity between signs or detect dilution. Also, other types of actions pose a threat to trademarks' owners: names for skills/actions within voice assistant platforms will be like traditional mobile application names or even domain names, i.e., unique names in the voice shopping environment that marketers will rush to assign to themselves; besides, voice SEO in general might be quite challenging for businesses.

Despite all of that, the new voice setting may cause critical issues to competition and advertising laws as well as general ethical themes, related to AI. Anyway, this is only the beginning. More discussions with greater policing will come later.

REFERENCES

Legal Acts

Agreement on Trade-Related Aspects of Intellectual Property Rights dated 15 April 1994. [online] Available at: https://www.wto.org/english/docs_e/legal_e/31bis_trips_04_e.htm [Accessed 17 April 2020].

First Council Directive 89/104/EEC of 21 December 1988 to approximate the laws of the Member States relating to trade marks. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31989L0104> [Accessed 17 April 2020].

Directive 2015/2436 of the European Parliament and of the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015L2436> [Accessed 17 April 2020].

Council Regulation (EC) No 40/94 of 20 December 1993 on the Community trade mark. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31994R0040> [Accessed 17 April 2020].

Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R1001> [Accessed 17 April 2020].

Case Law³¹¹

CJEU Case C-102/77, *Hoffmann-La Roche & Co. AG v. Centrafarm Vertriebsgesellschaft Pharmazeutischer Erzeugnisse mbH*, [1978], ECR 01139.

CJEU Case C-10/89, *SA CNL-SUCAL NV v. HAG GF AG*, [1990], ECR I-03711.

CJEU Case C-342/97, *Lloyd Schuhfabrik Meyer & Co. GmbH v. Klijsen Handel BV*, [1999], ECR I-03819.

CJEU Case C-299/99, *Koninklijke Philips Electronics NV v. Remington Consumer Products Ltd*, [2002], ECR I-05475.

CJEU Case C-206/01, *Arsenal Football Club plc v. Matthew Reed*, [2002], ECR I-10273.

CJEU Case C-292/00, *Davidoff & Cie SA and Zino Davidoff SA v. Gofkid Ltd*, [2003], ECR I-00389.

CJEU Case C-228/03, *The Gillette Company and Gillette Group Finland Oy v LA-Laboratories Ltd Oy*, [2005], ECR I-02337.

³¹¹ Including judgments and Advocate Generals' opinions. Accessed 17 April 2020 through the CJEU website at https://curia.europa.eu/jcms/jcms/j_6/en.

CJEU Case C-533/06, *O2 Holdings Limited and O2 (UK) Limited v. Hutchison 3G UK Limited*, [2008], ECR I-04231.

CJEU Case C-487/07, *L'Oréal SA, Lancôme parfums et beauté & Cie SNC and Laboratoire Garnier & Cie v. Bellure NV, Malaika Investments Ltd and Starion International Ltd*, [2009], ECR I-05185.

CJEU Case C-62/08, *UDV North America Inc v. Brandtraders NV*, [2009], ECR I-01279.

CJEU Case C-236/08, *Google France SARL and Google Inc. v. Louis Vuitton Malletier SA (C-236/08), Google France SARL v. Viaticum SA and Luteciel SARL (C-237/08) and Google France SARL v. Centre national de recherche en relations humaines (CNRRH) SARL and Others (C-238/08)*, [2010], ECR I-02417.

CJEU Case C-558/08, *Portakabin Ltd and Portakabin BV v. Primakabin BV*, [2010], ECR I-06963.

CJEU Case C-46/10, *Viking Gas A/S v. Kosan Gas A/S*, [2011], ECR I-06161.

CJEU Case C-323/09, *Interflora Inc. and Interflora British Unit v. Marks & Spencer plc and Flowers Direct Online Ltd*, [2011], ECR I-08625.

CJEU Case C-324/09, *L'Oréal SA and Others v. eBay International AG and Others*, [2011], ECR I-06011.

CJEU Case C-324/09, *Budějovický Budvar, národní podnik v. Anheuser-Busch Inc.*, [2011], ECR I-08701.

CJEU Case C-661/11, *Martin y Paz Diffusion SA v. David Depuydt and Fabriek van Maroquinerie Gauquie NV*, [2013].

CJEU Case C-129/17, *Mitsubishi Shoji Kaisha Ltd and Mitsubishi Caterpillar Forklift Europe BV v. Duma Forklifts NV and G.S. International BVBA*, [2018].

Ty Inc. v. Perryman, 306 F.3d 509 (7th Cir. 2002).

Literature

Akerlof, A., 1970. The Market for “Lemons:” Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, [online] 84(3). Available at: <https://www2.bc.edu/thomas-chemmanur/phdfincorp/MF891%20papers/Akerlof%201970.pdf> [Accessed 17 April 2020].

Bartolomew, M., 2013. Trademark Morality. *SUNY Buffalo Legal Studies Research Paper*, [online] 2013-30. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2227106 [Accessed 17 April 2020].

- Bartow, A., 2004. Likelihood of Confusion. *San Diego Law Review*, [online] 41. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=544923 [Accessed 17 April 2020].
- Beebe, B., 2005. Search and Persuasion in Trademark Law. *Michigan Law Review*, [online] 103(8). <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1577&context=mlr> [Accessed 17 April 2020].
- Beebe, B. and Fromer, J.C., 2018. Are We Running Out of Trademarks? An Empirical Study of Trademark Depletion and Congestion. *Harvard Law Review*, [online] 131(4). Available at: <https://harvardlawreview.org/wp-content/uploads/2018/02/945-1045.pdf> [Accessed 17 April 2020].
- Bently, L.A.F., 2007. From Communication to Thing: Historical Aspects of Conceptualization of Trade Marks as Property. *U Iowa Legal Studies Research Paper*, [online] 07-31. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1034177 [Accessed 17 April 2020].
- Blythe, A., 2016. Initial Interest Confusion: Attempting to Define Its Current Status within European Trade Mark Law. *European Intellectual Property Review*, [online] 38(4). Available at: <https://pdfs.semanticscholar.org/4958/8dace42075236e8d7ac4d8d98a0dff38c006.pdf> [Accessed 17 April 2020].
- Bomhard, V. and Mühlendahl, A., eds. 2018. *Concise European Trade Mark Law*. [e-book] Alphen aan den Rijn: Kluwer Law International. Available at: <https://books.google.ru/books?id=Do6WDwAAQBAJ&dq> [Accessed 17 April 2020].
- Boorstin, D.J., 1941. Tradition and Method in Legal History. *Harvard Law Review*, [online] 54(3). Available at: <https://www.jstor.org/stable/1334034> [Accessed 17 April 2020].
- Calboli, I. and Senftleben, M., eds. 2018. *The Protection of Non-Traditional Trademarks*. [e-book] Oxford: Oxford University Press. Available at: <https://global.oup.com/academic/product/the-protection-of-non-traditional-trademarks-9780198826576?cc=ru&lang=en&> [Accessed 17 April 2020].
- Chronopoulos, A., 2011. Determining the Scope of Trademark Rights by Recourse to Value Judgments Related to the Effectiveness of Competition – The Demise of the Trademark Use Requirement and the Functional Analysis of Trademark Law. *International Review of Intellectual Property and Competition Law*, [online] 42. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1904641 [Accessed 17 April 2020].
- Desai, D.R. and Waller, S., 2010. Brands, Competition, and the Law. *Thomas Jefferson School of Law Research Paper*, [online] 1545893. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1545893 [Accessed 17 April 2020].
- Diamond, S.A., 1975. The Historical Development of Trademarks. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.

- Dinwoodie, G.B., 1999. The Death of Ontology: A Teleological Approach to Trademark Law. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.
- Dinwoodie, G.B. and Gangjee, D.S., 2014. The Image of the Consumer in European Trade Mark Law. *Oxford Legal Studies Research Paper*, [online] 83/2014. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2518986 [Accessed 17 April 2020].
- Dogan, S.L. and Lemley, M.A., 2004. Trademarks and Consumer Search Costs on the Internet. *Stanford Law and Economics Olin Working Paper*, [online] 294. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=560725 [Accessed 17 April 2020].
- Dogan, S.L. and Lemley, M.A., 2007. A Search-Costs Theory of Limiting Doctrines in Trademark Law. *The Trademark Reporter*, [online] 97(6). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=977320 [Accessed 17 April 2020].
- Dornis, T.W., 2017. *Trademark and Unfair Competition Conflicts*. [e-book] Cambridge: Cambridge University Press. Available at: <https://www.cambridge.org/core/books/trademark-and-unfair-competition-conflicts/0291FCB8187B335E5A11E501202FADA8> [Accessed 17 April 2020].
- Dreyfuss, R.C., 1990. Expressive Genericity: Trademarks as Language in the Pepsi Generation. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.
- Fhima, I.S., 2011. The Court of Justice's Protection of the Advertising Function of Trade Marks: An (Almost) Sceptical Analysis. *Journal of Intellectual Property Law and Practice*, [online] 6(5). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2112000 [Accessed 17 April 2020].
- Fhima, I.S., 2013. Initial Interest Confusion. *Journal of Intellectual Property Law and Practice*, [online] 8(4). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2382000 [Accessed 17 April 2020].
- Fisher, W., 2001. Theories of Intellectual Property. In: S. Munzer, ed. 2001. *New Essays in the Legal and Political Theory of Property*. Cambridge: Cambridge University Press. [online] Available at: <https://cyber.harvard.edu/people/tfisher/iptheory.pdf> [Accessed 17 April 2020].
- Friedman, D., 2015. *Trademarks and Social Media: Towards Algorithmic Justice*. [e-book] Cheltenham: Edward Elgar Publishing. Available at: <https://books.google.ru/books?id=uLCCCgAAQBAJ&dq> [Accessed 17 April 2020].
- Gangjee, D.S., 2013. Property in Brands: The Commodification of Conversation. In: H. Howe and J. Griffiths, eds. 2013. *Property Concepts in Intellectual Property Law*. Cambridge: Cambridge University Press. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2235721 [Accessed 17 April 2020].

- Gangjee, D.S., 2019. Eye, Robot: Artificial Intelligence and Trade Mark Registers. Forthcoming in: N. Bruun, G. Dinwoodie, M. Levin and A. Ohly, eds. 2020. *Transition and Coherence in Intellectual Property Law*. Cambridge: Cambridge University Press. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3467627 [Accessed 17 April 2020].
- Goldman, E., 2004. Deregulating Relevancy in Internet Trademark Law. *Emory Law Journal*, [online] 54. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=635803 [Accessed 17 April 2020].
- Griffiths, A., 2011. *An Economic Perspective on Trade Mark Law*. [e-book] Cheltenham: Edward Elgar Publishing. Available at: <https://books.google.fr/books?id=gXL8AQAAQBAJ> [Accessed 17 April 2020].
- Handler, M. and Pickett, C., 1930. Trade-Marks and Trade Names – An Analysis and Synthesis. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.
- Hughes, J., 2009. A Short History of “Intellectual Property” in Relation to Copyright. *Cardozo Legal Studies Research Paper*, [online] 265. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1432860 [Accessed 17 April 2020].
- Janis, M.D. and Dinwoodie, G.B., 2007. Confusion Over Use: Contextualism in Trademark Law. *Iowa Law Review*, [online] 92. Available at: <https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1361&context=facpub> [Accessed 17 April 2020].
- Kahneman, D., 2011. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.
- Katz, A., 2011. Beyond Search Costs: The Linguistic and Trust Functions of Trademarks. *Brigham Young University Law Review*, [online] 2010. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1497103 [Accessed 17 April 2020].
- Kur, A., 2014. Trademark Function, Don’t They? CJEU Jurisprudence and Unfair Competition Principles. *Max Planck Institute for Innovation and Competition Research Paper*, [online] 14-05. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2401536 [Accessed 17 April 2020].
- Kur, A., 2016. Brand Symbols, the Consumer, and the Internet. *Max Planck Institute for Innovation and Competition Research Paper*, [online] 16-01. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2721740 [Accessed 17 April 2020].
- Kur, A., 2019. Trademark Functions in European Union Law – Also Containing a Comment on CJEU case C-129/17, *Mitsubishi v. Duma*. *Max Planck Institute for Innovation and Competition Research Paper*, [online] 19-06. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3425839 [Accessed 17 April 2020].

- Kur, A., Bently, L.A.F. and Ohly, A., 2010. Sweet Smells and a Sour Taste – The ECJ’s L’Oréal Decision. *University of Cambridge Legal Studies Research Paper Series*, [online] 10/01. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1492032 [Accessed 17 April 2020].
- Landes, W.M. and Posner, R., 1987. Trademark Law: An Economic Perspective. *The Journal of Law and Economics*, [online] 30(2). Available at: <https://www.jstor.org/stable/725498> [Accessed 17 April 2020].
- Lastowka, G., 2008. Google’s Law. *Brooklyn Law Review*, [online] 73(4). Available at: <https://brooklynworks.brooklaw.edu/blr/vol73/iss4/2> [Accessed 17 April 2020].
- Lessig, L., 2006. *Code: Version 2.0*. [e-book] New York: Basic Books. Available at: <http://codev2.cc/download+remix/Lessig-Codev2.pdf> [Accessed 17 April 2020].
- Litman, J., 1999. Breakfast with Batman. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.
- Mari, A., 2019. Voice Commerce: Understanding Shopping-Related Voice Assistants and Their Effect on Brands. In: International Media Management Academic Association (IMMAA), *IMMAA Annual Conference*. Qatar, Doha. 04-06 October 2019. [online] Available at: https://www.researchgate.net/publication/336363485_Voice_Commerce_Understanding_shopping-related_voice_assistants_and_their_effect_on_brands [Accessed 17 April 2020].
- Mari, A., 2020. The Evolution of Marketing in the Context of Voice Commerce: A Managerial Perspective. In: *HCI Conference 2020*. Denmark, Copenhagen. 19-24 July 2020. [online] Available at: https://www.researchgate.net/publication/339473012_The_Evolution_of_Marketing_in_the_Context_of_Voice_Commerce_A_Managerial_Perspective [Accessed 17 April 2020].
- McKenna, M.P., 2007. The Normative Foundations of Trademark Law. *Notre Dame Law Review*, [online] 82(5). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=889162 [Accessed 17 April 2020].
- McKenna, M., 2009. Trademark Use and the Problem of Source. *University of Illinois Law Review*, [online] 2009(3). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1088479 [Accessed 17 April 2020].
- McKenna, M.P., 2012. A Consumer-Decision Making Theory in Trademark Law. *Virginia Law Review*, [online] 98. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1988521 [Accessed 17 April 2020].
- Menell, P.S., 1999. Intellectual Property: General Theories. In: P. Newman, ed. 1999. *The New Palgrave Encyclopedia of Law and Economic*. Vol. II. London: Palgrave Macmillan. [online] Available at: <http://www.dklevine.com/archive/itttheory.pdf> [Accessed 17 April 2020].

- Minemura, T., 1970. Dogmatic Legal Science and Sociology of Law. *Archives for Philosophy of Law and Social Philosophy*, [online] 56(3). Available at: <https://www.jstor.org/stable/23678464> [Accessed 17 April 2020].
- Milgram, S., 1974. The Perils of Obedience. *Harper's Magazine*. [online] Available at: <http://www.physics.utah.edu/~detar/phys4910/readings/ethics/PerilsofObedience.html> [Accessed 17 April 2020].
- Morris, P.S., 2012. Guess What Gucci? Post-Sale Confusion Exists in Europe. *Valparaiso University Law Review*, [online] 47(1). Available at: <https://scholar.valpo.edu/cgi/viewcontent.cgi?article=2254&context=vulr> [Accessed 17 April 2020].
- Naser, M.A., 2007. Rethinking the Foundations of Trademarks. *Buffalo Intellectual Property Law Journal*, [online] 5(1). Available at: <https://digitalcommons.law.buffalo.edu/cgi/viewcontent.cgi?article=1074&context=buf-faloipjournal> [Accessed 17 April 2020].
- Ouellette, L.L., 2018. Does Running Out of (Some) Trademarks Matter? *Harvard Law Review Forum*, [online] 131. Available at: https://harvardlawreview.org/wp-content/uploads/2018/02/vol131_Ouellette.pdf [Accessed 17 April 2020].
- Peguera, M., 2014. Trademark Functions and Trademark Rights. In: *Intellectual Property Scholars Conference*. United States, Berkeley (CA). 07-08 August 2014. [online] Available at: https://www.law.berkeley.edu/files/Peguera_Miquel_IPSC_paper_2014.pdf [Accessed 17 April 2020].
- Porangaba, L.H., 2018. A Contextual Account of the Trade Mark Functions Theory. *Intellectual Property Quarterly*, [online] 230. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3420019 [Accessed 17 April 2020].
- Posner, R.A., 1998. Values and Consequences: An Introduction to Economic Analysis of Law. *John M. Olin Law and Economics Working Paper*, [online] 53 (2nd series). Available at: <https://pdfs.semanticscholar.org/fcca/671b93a88efd6d5807b12ea01f4094a8833c.pdf> [Accessed 17 April 2020].
- Pradeep, A.K., Appel, A. and Sthanunathan, S., 2018. *AI for Marketing and Product Innovation: Powerful New Tools for Predicting Trends, Connecting with Customers, and Closing Sales*. [e-book] Hoboken: John Wiley and Sons. Available at: <https://hanken.finna.fi/Record/hanna.728105> [Accessed 17 April 2020].
- Ramsey, L.P. and Schovsbo, J.H., 2013. Mechanisms for Limiting Trade Mark Rights to Further Competition and Free Speech. *International Review of Intellectual Property and Competition Law*, [online] 44(6). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2619436 [Accessed 17 April 2020].
- Schechter, F.I., 1927. The Rational Basis of Trademark Protection. In: R.P. Merges and J.C. Ginsburg, 2004. *Foundations of Intellectual Property*. New York: Foundation Press.

- Schovsbo, J.H., 2018. "Mark My Words" – Trademarks and Fundamental Rights in the EU. *UC Irvine Law Review*, [online] 8(3). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2928031 [Accessed 17 April 2020].
- Senftleben, M., 2011. Adapting EU Trademark Law to New Technologies: Back to Basics? In: C. Geiger, ed. 2013. *Constructing European Intellectual Property: Achievements and New Perspectives*. Cheltenham: Edward Elgar Publishing. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1875629 [Accessed 17 April 2020].
- Senftleben, M., 2011. Trade Mark Protection – A Black Hole in the Intellectual Property Galaxy? *International Review of Intellectual Property and Competition Law*, [online] 42(4). Available at: https://www.researchgate.net/publication/296125824_Trade_Mark_Protection_-_A_Black_Hole_in_the_Intellectual_Property_Galaxy [Accessed 17 April 2020].
- Senftleben, M., 2013. Function Theory and International Exhaustion – Why It Is Wise to Confine the Double Identity Rule to Cases Affecting the Origin Function. *European Intellectual Property Review*, [online] 36(8). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2356772 [Accessed 17 April 2020].
- Senftleben, M., 2015. Trademark Transactions in EU Law – Refining the Approach to Selective Distribution Networks and National Unfair Competition Law. In: J. de Werra and I. Calboli, eds. 2015. *Law and Practice of Trademark Transactions*. Cheltenham: Edward Elgar Publishing. [online] Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2586765 [Accessed 17 April 2020].
- Smits, J.M., 2015. What is Legal Doctrine? On the Aims and Methods of Legal-Dogmatic Research. *Maastricht European Private Law Institute Working Paper*, [online] 2015/06. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2644088 [Accessed 17 April 2020].
- Solomon, M.R., 2018. *Consumer Behavior: Buying, Having, and Being*. 12th edition. Essex: Pearson Education.
- Tushnet, R., 2008. Gone in Sixty Milliseconds: Trademark Law and Cognitive Science. *Texas Law Review*, [online] 86. Available at: <https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1793&context=facpub> [Accessed 17 April 2020].
- Weatherall, K., 2017. The Consumer as the Empirical Measure of Trade Mark Law. *The Modern Law Review*, [online] 80(1). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3035119 [Accessed 17 April 2020].
- Yap, P.J., 2009. Essential Function of a Trade Mark: From BMW to O2. *European Intellectual Property Review*, [online] 31(2). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3046292 [Accessed 17 April 2020].

Media and Other Publications

- Agrawal, A., Gans, J. and Goldfarb, A., 2017. How AI Will Change Strategy: A Thought Experiment. *Harvard Business Review*, [online] 03 October. Available at: <https://hbr.org/2017/10/how-ai-will-change-strategy-a-thought-experiment> [Accessed 17 April 2020].
- Baker McKenzie, 2019. *Trademark Trends*. [online] Available at: <https://www.bakermckenzie.com/-/media/files/insight/guides/2019/trademark-trends-2019.pdf?la=en> [Accessed 17 April 2020].
- Cahill, P., 2019. Should Your Company's Voice Strategy Be Based on Platforms Like Alexa? *Harvard Business Review*, [online] 01 May. Available at: <https://hbr.org/2019/05/should-your-companys-voice-strategy-be-based-on-platforms-like-alexa> [Accessed 17 April 2020].
- CBInsights, 2019. *Is Voice Shopping Finally Becoming Mainstream?* [online] Available at: <https://www.cbinsights.com/research/voice-shopping> [Accessed 17 April 2020].
- Charlton, A., 2020. What Are Amazon Alexa Skills? *GearBrain*, [online] 27 January. Available at: <https://www.gearbrain.com/what-are-amazon-alexa-skills-2471456002.html> [Accessed 17 April 2020].
- Curtis, L. and Platts, R., 2017. AI Is Coming and It Will Change Trade Mark Law. *Managing IP*, [online] year end. Available at: <https://www.hgf.com/media/1173564/09-13-AI.PDF> [Accessed 17 April 2020].
- Curtis, L. and Platts, R., 2019. AI is Changing How Products are Bought and by Definition Will Change Trade Mark Law. *European IP Helpdesk*. [online] Available at: <http://www.iprhelpdesk.eu/news/guest-article-ai-changing-how-products-are-bought-and-definition-will-change-trade-mark-law> [Accessed 17 April 2020].
- Curtis, L. and Platts, R., 2019. Alexa, "What's the Impact of AI on Trademark Law?" *Managing IP*, [online] May/June. Available at: <https://www.hgf.com/media/1623950/Lee-curtis-AI-article.pdf> [Accessed 17 April 2020].
- Dawar, N., 2018. Marketing in the Age of Alexa. *Harvard Business Review*, [online] May-June. Available at: <https://hbr.org/2018/05/marketing-in-the-age-of-alexa> [Accessed 17 April 2020].
- Deloitte, 2018. *Beyond Touch Glimpse*. [online] Available at: <https://www2.deloitte.com/content/dam/Deloitte/de/Documents/consumer-business/Deloitte-Glimpse%20Beyond%20Touch.pdf> [Accessed 17 April 2020].
- Deloitte, 2019. *Managing the Black Box of Artificial Intelligence (AI)*. [online] Available at: <https://www2.deloitte.com/us/en/pages/advisory/articles/black-box-artificial-intelligence.html> [Accessed 17 April 2020].
- Deloitte, 2019. *Smart Speakers: Not Just a Pretty Voice*. [online] Available at: https://www2.deloitte.com/content/dam/Deloitte/za/Documents/Consumer_Industrial_Products/za_J17493_5_Smart_Speakers_Lkd.pdf [Accessed 17 April 2020].

- Green, D., 2018. Here's What It Means When an Item Is Marked "Amazon's Choice." *BusinessInsider.fr*, [online] 04 August. Available at: <https://www.businessinsider.com/what-is-amazons-choice-2018-5> [Accessed 17 April 2020].
- International Trademark Association, 2006. *Initial Interest Confusion*. [online] Available at: <https://www.inta.org/Advocacy/Pages/InitialInterestConfusion.aspx> [Accessed 17 April 2020].
- Jeremy on IPKat, 2015. The Burden of Proof in "Double Identity" Trade Mark Disputes: Rising to the Supreme Challenge. *IPKat*, [online] 24 February. Available at: <http://ipkitten.blogspot.com/2015/02/the-burden-of-proof-in-double-identity.html> [Accessed 17 April 2020].
- Joseph, S., 2017. Domino's Is Starting to See Pizza Orders Come Through Amazon Alexa. *Digiday*, [online] 28 September. Available at: <https://digiday.com/marketing/dominos-getting-people-order-pizza-amazon-alexa> [Accessed 17 April 2020].
- Kayser, S.M., Wheatley, L.J., Chiang, L.L., Groebl, M., Stoerzinger, G., McCulloch, A., Holmeyer, F., Baud, E. and Fortunet, E., 2014. Combating Contributory Infringement on the Internet, *INTABulletin*, [online] 69(9). Available at: <https://www.inta.org/INTABulletin/Pages/CombatingContributoryInfringementontheInternet.aspx> [Accessed 17 April 2020].
- Kinsella, B., 2019. Walmart to Enable Direct Voice Ordering Through Google Assistant. *Voicebot.ai*, [online] 02 April. Available at: <https://voicebot.ai/2019/04/02/walmart-to-enable-direct-voice-ordering-through-google-assistant> [Accessed 17 April 2020].
- Kinsella, B., 2019. Why Tech Giants Are So Desperate to Provide Your Voice Assistant. *Harvard Business Review*, [online] 07 May. Available at: <https://hbr.org/2019/05/why-tech-giants-are-so-desperate-to-provide-your-voice-assistant> [Accessed 17 April 2020].
- Knight, W., 2017. The U.S. Leads in Artificial Intelligence, But for How Long? *MIT Technology Review*, [online] 06 December. Available at: <https://www.technologyreview.com/2017/12/06/3775/the-us-leads-in-artificial-intelligence-but-for-how-long> [Accessed 17 April 2020].
- Kostova, O., 2019. Amazon Alexa Skills and Google Assistant Actions: The Future of Search. *Medium*, [online] 29 January. Available at: <https://medium.com/@odolenakostova/amazon-alexa-skills-and-google-assistant-actions-the-future-of-search-531573793643> [Accessed 17 April 2020].
- Krupansky, J., 2017. What Is an Intelligent Digital Assistant? *Medium*, [online] 30 November. Available at: <https://medium.com/@jackkrupansky/what-is-an-intelligent-digital-assistant-3f601a4bb1f2> [Accessed 17 April 2020].
- Lee, K.F., 2019. AI's Real Impact? Freeing Us from the Tyranny of Repetitive Tasks. *Wired*, [online] 12 December. Available at: <https://www.wired.co.uk/article/artificial-intelligence-repetitive-tasks> [Accessed 17 April 2020].

- Mari, A., 2020. Voice Search in the Context of Voice Commerce. *LinkedIn*, [online] 02 March. Available at: <https://www.linkedin.com/pulse/voice-search-context-commerce-alex-mari> [Accessed 17 April 2020].
- Perez, S., 2019. Google Express Becomes an All-New Google Shopping in Big Revamp. *TechCrunch*, [online] 14 May. Available at: <https://techcrunch.com/2019/05/14/google-express-becomes-an-all-new-google-shopping-in-big-revamp> [Accessed 17 April 2020].
- Rauthan, H., 2019. Voice Search Optimization: 7 Ready-to-Use SEO Strategies to Rank Better. *Semrush*, [online] 16 August. Available at: <https://www.semrush.com/blog/voice-search-optimization-7-seo-strategies-to-rank-better> [Accessed 17 April 2020].
- Russell, C., 2020. Who Are the 10 Biggest Retailers in the World? *Forbes*, [online] 09 January. Available at: <https://www.forbes.com/sites/callyrussell/2020/01/09/who-are-the-10-biggest-retailers-in-the-world/#ae154c63802d> [Accessed 17 April 2020].
- Schwartz, E.H., 2019. Siri Can Now Order Groceries from Walmart. *Voicebot.ai*, [online] 14 November. Available at: <https://voicebot.ai/2019/11/14/siri-can-now-order-groceries-from-walmart> [Accessed 17 April 2020].
- Sheth, B., 2017. Conversational Marketing: Bots Are the New Marketers. *Chatbots Life*, [online] 19 October. Available at: <https://chatbotlife.com/conversational-marketing-bots-are-the-new-marketers-80ba4a6b1b83> [Accessed 17 April 2020].
- Siggelkow, N. and Terwiesch, C., 2019. The Age of Continuous Connection. *Harvard Business Review*, [online] May-June. Available at: <https://hbr.org/2019/05/the-age-of-continuous-connection> [Accessed 17 April 2020].
- Surati, S., 2019. What Is the Difference Between Voice Search and Voice Assistants? *WhetStone*, [online] 30 October. Available at: <https://www.whetstonetechnologies.io/post/what-is-the-difference-between-voice-search-and-voice-assistants> [Accessed 17 April 2020].
- Welcher, E., 2019. Alexa, What Is the Future of Paid Voice Search? *Hero Digital*, [online] 08 January. Available at: <https://herodigital.com/perspectives/future-paid-voice-search> [Accessed 17 April 2020].

Reports

- OC&C, 2018. *The Talking Shop: The Rise of Voice Commerce*. [online] Available at: https://www.ocstrategy.com/media/1285/the-talking-shop_uk.pdf [Accessed 17 April 2020].
- PWC, 2019. *IAB Internet Advertising Revenue Report*. [online] Available at: <https://www.iab.com/wp-content/uploads/2019/05/Full-Year-2018-IAB-Internet-Advertising-Revenue-Report.pdf> [Accessed 17 April 2020].
- Voicebot.ai, 2018. *Voice Assistant Consumer Adoption Report*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].
- Voicebot.ai, 2018. *Voice Shopping Consumer Adoption Report*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

Voicebot.ai, 2019. *The State of Voice Assistants as a Marketing Channel*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

Voicebot.ai, 2019. *Voice Assistant SEO Report for Brands*. [online] Available at: <https://voicebot.ai/research> [Accessed 17 April 2020].

Other Sources

Aloogle on YouTube, 2019. How to Buy Things with Alexa. *YouTube*, [online] 25 April. Available at: <https://www.youtube.com/watch?v=oMsUZDdXXc4> [Accessed 17 April 2020].

Curtis, L., 2019. In: US Patent and Trademark Office, “*Artificial Intelligence: Intellectual Property Policy Considerations*” Conference. United States: Alexandria (VA). 31 January 2019. [online] Available at: <https://www.uspto.gov/about-us/events/artificial-intelligence-intellectual-property-policy-considerations> [Accessed 17 April 2020].

Google, n.d. *Google AdWords is Now Google Ads*. [online] Available at: <https://support.google.com/adwords/answer/9028765> [Accessed 17 April 2020].

Google, n.d. *Smart Displays with the Google Assistant*. [online] Available at: <https://assistant.google.com/platforms/displays> [Accessed 17 April 2020].

Investopedia.com, 2019. *Fast-Moving Consumer Goods*. [online] Available at: <https://www.investopedia.com/terms/f/fastmoving-consumer-goods-fmkg.asp> [Accessed 17 April 2020].

Investopedia.com, 2019. *SEO*. [online] Available at: <https://www.investopedia.com/terms/s/seo-search-engine-optimization.asp> [Accessed 17 April 2020].

Merriam-Webster, n.d. *Function*. [online] Available at: <https://www.merriam-webster.com/dictionary/function> [Accessed 17 April 2020].

Merriam-Webster, n.d. *Particular*. [online] Available at: <https://www.merriam-webster.com/dictionary/in%20particular> [Accessed 17 April 2020].

Northcott, N.B., 2019. In: US Patent and Trademark Office, “*Artificial Intelligence: Intellectual Property Policy Considerations*” Conference. United States: Alexandria (VA). 31 January 2019. [online] Available at: <https://www.uspto.gov/about-us/events/artificial-intelligence-intellectual-property-policy-considerations> [Accessed 17 April 2020].

NPR, 2013. *Taking a Closer Look at Milgram’s Shocking Obedience Study*. [online] Available at: <https://www.npr.org/2013/08/28/209559002/taking-a-closer-look-at-milgrams-shocking-obedience-study> [Accessed 17 April 2020].

StatCounter, 2020. *Search Engine Market Share Worldwide*. [online] Available at: <https://gs.statcounter.com/search-engine-market-share> [Accessed 17 April 2020].

University of Helsinki and Reaktor, n.d. *Elements of AI*. [online] Available at: <https://course.elementsofai.com> [Accessed 17 April 2020].