Expert Opinion on the UK Government's Proposal to Ban All Online Advertising for High Fat, Sugar and Salt (HFSS) Food Products

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I.   Executive Summary

1.   As a senior professor at the University of Oxford with substantial expertise in digital advertising, I was asked to review the UK government's proposal of a total ban on online advertising of high fat, sugar and salt (HFSS) food products. It is an understandable goal to reduce child exposure to HFSS ads. However, my conclusion is that **the total ban will be an ineffective and excessively burdensome approach** to the goal of protecting children from exposure to online ads for HFSS products.

2.   I strongly recommend that **less-restrictive alternatives that make effective use of widely available and easy-to-use precision-targeting technologies instead be considered** to address this important issue. A solution based on precision-targeting technologies, which are readily available and indeed standard on the two largest online advertising platforms in the UK (Facebook and Google), as well as across the broader open market as well, would be a more efficient solution by ensuring that age restrictions are used to prevent children from seeing ads for HFSS products. Even if an internet user's age is unknown or has been inaccurately stated, current and future machine learning tools can be used by the ad platforms to reliably predict age for the purposes of ad-targeting restrictions. To use a military analogy, the total ban is akin to carpet bombing a city—you might hit your target but you will cause a lot of collateral damage in the process. Conversely, precision online ad targeting is more like a laser-guided missile or smart bomb—you're very likely to hit your target cleanly and without collateral damage.

3.   **Instead of a total ban, therefore, a set of restrictions based on the use of age-based precision targeting in relevant online media** would be a lot easier on food companies, ad agencies, media agencies, and the ad platform companies in the sense that it makes use of very efficient and effective targeting technologies that are currently excellent and will only improve in their targeting accuracy with advances in AI and machine learning (which the ad platforms are heavily investing in).

4.   Age-based targeting can rely on a number of tools, including the use of inferred or probabilistic age limiting and other tools based on interests and behaviours, all of which may be used on their own or as means of validating age data provided directly by users via logins where such logins have occurred. **These tools are already robust and improving quickly. In short, targeting capabilities are already so prevalent across the spectrum of online media, and becoming so increasingly sophisticated by the minute, that it is highly unreasonable to ignore it as an approach.** These tools can be supplemented, of course, with existing restrictions that address contextually-targeted ads to ensure that no part of the online media landscape is unaddressed.

5.   Additionally, forcing food companies to stop all online advertising of HFSS products would have **adverse consequences not present in a targeting-based solution**, such as undermining competition and product improvement by not- allowing food

companies to effectively communicate to and present product benefits to adults, including about how products may have been reformulated to improve nutrition.

6.   The government's proposal suggested that a total online ban would be ineffective at reducing the full volume of the exposure children currently have to HFSS ads online by displacing these child ad exposures to other media (because advertisers would be forced to move their communications offline). **Accepting the government's view of this displacement as true, it becomes all the more unreasonable that the government chose to not consider an approach based on targeting** where, presumably, advertisers would feel no need to shift their advertising to other media because they could still fully and effectively reach their adult audience online.

7.   Finally, much of the evidence the government bases their proposal on comes from an ASA 2019 monitoring report. The ASA's report was explicitly not intended to be used in this manner and, in my scientific judgment, use of this report is not appropriate for the questions that the government is seeking to answer. Hence, **the empirical evidence upon which the government's proposal is based is, in my view, not fit for purpose and should not be relied upon to create a policy that will have major adverse impacts on both consumers and companies in the food, advertising, and technology industries.**

II.   Expert's Background and Qualifications

8.   My name is Professor Andrew Stephen. I reside in Maidenhead, England and work in Oxford, England.

9.   I am a professor of marketing at the Saïd Business School, University of Oxford.[1] I am the university's senior marketing academic, holding the only endowed chair ("statutory professorship") in marketing in the university (my title is the L'Oréal Professor of Marketing). Statutory professorship is the highest academic staff rank at the University of Oxford.

10.   At Oxford, I am the head of the Saïd Business School's academic marketing group with responsibility for managing the school's marketing faculty and research staff, setting research and curriculum agendas, and managing relationships with industry partners (which is primarily done through the Oxford Future of Marketing Initiative, a research centre hosted at the Saïd Business School and involving academic-industry partnerships for research and teaching purposes). I also serve as the Saïd Business School's Associate Dean of Research (essentially the School's chief research governance and compliance officer), am a member of the school's senior leadership team, am a member of the university's Social Science Division Research Strategy

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[1] https://www.sbs.ox.ac.uk/about-us/people/andrew-stephen

Group, and was in charge of preparations for the 2021 Research Excellence Framework in the "business and management" unit of assessment.

11. My teaching at Oxford covers digital marketing, online advertising, general marketing (e.g., marketing strategy, branding, communications and advertising), and the uses of artificial intelligence and data analytics in marketing. Over the course of a typical academic year I teach these topics to masters (MBA and Executive MBA) students and senior executives attending executive development courses.

12. Outside of the University of Oxford, from 1 January 2021 I will commence a three-year term as one of the five editors of the *Journal of Consumer Research*, which is generally accepted as the world's best, most prestigious, and most highly respected academic journal for studies of consumer behaviour, and one of the four "premier" academic journals in the discipline of marketing globally.

13. According to an annual global ranking of marketing academics based on their research outputs in "premier" academic journals (prepared by the American Marketing Association), I am the top-ranked marketing academic in the UK.

14. A copy of my curriculum vitae is provided in Appendix I.

III. Instructions and request for expert opinion

15. This report was commissioned for the Incorporated Society of British Advertisers (ISBA). I was instructed to review the UK government's proposal to ban all online advertising of high fat, salt or sugar (HFSS) food products. Specifically, I was asked to consider the 10 November 2020 consultation document published by the UK government, *Total restriction of online advertising for products high in fat, sugar and salt (HFSS)*[2] and the accompanying *Evidence Note*.[3] Hereafter I refer to both documents collectively as the "government's proposal."

16. I was asked to examine the government's proposal and express my professional academic opinions on the proposed total ban on HFSS online advertising, such a ban's potential to achieve the government's stated goals with respect to reducing child exposure to ads for HFSS advertising and less-restrictive alternatives to the proposed total ban on HFSS online advertising that are available to the government and which could achieve the government's stated objectives. In this report I refer to either "online" or "digital" advertising to mean the same thing.

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[2] https://www.gov.uk/government/consultations/total-restriction-of-online-advertising-for-products-high-in-fat-sugar-and-salt-hfss
[3] https://www.gov.uk/government/consultations/total-restriction-of-online-advertising-for-products-high-in-fat-sugar-and-salt-hfss/evidence-note

IV.   Summary of conclusions and recommendations

17.   **The government's options under consideration are unreasonably limited.** When the current level of sophistication of digital advertising technology available in the UK (and around the world) is considered, the government's stated options are absolutely not the most practical solutions to the issue of children potentially seeing online ads for HFSS products.

    (i)   In particular, the government's proposal ignores the fact that current and future digital advertising technologies allow for effective *precision targeting* that could be used to drastically reduce the likelihood children would be shown online ads for HFSS products.

    (ii)   Age-based precision targeting is within the current set of capabilities not only on the two most-used online ad platforms in the UK (Facebook and Google, accounting for 67% of UK digital ad spending in 2019[4]) but across the broader online media landscape as well (which the Competition and Markets Authority[5] refers to as the "open display market" made up largely of publishers typically selling ad inventory in real-time through programmatic means). Some of this age-targeting (such as that employed by Facebook and Google) is based on login data provided directly by the user (supplemented by technology that can validate that data) and other age-targeting is based on inferred or probabilistic age limiting and other tools based on interests and behaviours. Methods used include creating detailed 18+ target groups; using content verification providers to exclude content sites and keywords that appeal to children; using inclusion and exclusion lists; using "adtech" tools for data verification from providers such as ComScore DCE or Nielsen DAR to cross-reference targets against audience profiles; delivering campaigns to logged-in 18+ users only; and carrying out verification (of where ads are being shown) during and after campaigns. All of these technologies are already robust and all of them are rapidly improving. The government should at the very least consider one or more alternatives based on precision targeting as potential options.

    (iii)   Using widely available precision-targeting technologies will make it unlikely that a child would see online ads for HFSS products when appropriate exclusion/restriction criteria are applied by advertisers (and their advertising/media agencies). In my professional opinion, this would be at least as effective as a total ban, but without nearly the level of cost and disruption, and without undue intrusion on competition and commercial speech interests.

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[4] https://www.emarketer.com/content/google-facebook-share-of-uk-ad-market-will-dip-below-66-percent.
[5] Competition and Markets Authority (2019), *Online platforms and digital advertising: Market study interim report*.
https://assets.publishing.service.gov.uk/media/5ed0f75bd3bf7f4602e98330/Interim_report_---_web.pdf

(iv)   In the small minority of circumstances where no such technologies can be deployed and ads are placed purely contextually, nothing would prevent existing or revised restrictions (based on the nature and audience of the platform's content) from addressing this remaining portion of the online advertising landscape.

(v)   According to the government's own assumptions (which I will take as accurate for the sake of this point), it would be likely that an approach based on precision targeting would be *even more effective* than the government's proposed total ban because the government expressly assumes that its plan will cause substantial displacement of children's online HFSS ad exposures to other media (the government assumes a 22% displacement). By contrast, a precision targeting-based approach, because it will still allow these online ads to be shown to the adults for whom they are actually intended, is unlikely to lead to any significant displacement because advertisers would have no need to move their ads to other media to reach their audience. As a consequence, total child exposure to HFSS ads across all forms of media should be lower under a precision targeting approach than under a total online ban according to the government's own assumptions.

(vi)   A solution based on precision targeting, compared to a total ban, would have the added benefit of not putting undue burdens on food companies and the rest of the advertising and media value chain. Under difficult economic conditions (as the UK economy enters into the post-Brexit period and emerges out of the COVID-19 pandemic), a total ban would in my view create considerable compliance costs[6] and burdens on both advertisers (i.e., companies in the food industry) and other companies in the advertising/media value chain, such as advertising agencies, media agencies, and digital advertising platforms/technology companies. For the food companies, a total online advertising ban would limit their ability to effectively compete with their peers and provide information of value to consumers by literally banning them from using online advertising channels, which are increasingly the predominant advertising channels in the UK.

(vii)   On the other hand, precision targeting would have a much-lower burden of compliance on advertisers because age-restricting online ads for HFSS products will make sure that children are not exposed to these ads and the adults (for whom the ads are intended anyway) still have opportunities to see these ads. Compared to compliance and monitoring costs that advertisers

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[6] Compliance costs could include, but not necessarily be limited to, the following: (a) ongoing processes for identifying which brands and products fit the HFSS definition, (b) processes for appealing government determinations of HFSS status for products when deemed appropriate, (c) self-auditing of HFSS products' ads running in other places to ensure that they don't "accidentally" appear as online ads, and (d) establishing liability for "mistakes" in a complex advertising ecosystem involving advertisers and multiple agencies in the value chain.

would be burdened with under a total ban, precision targeting "compliance" for advertisers would essentially require them "switching on" age restrictions when setting up their online ad campaigns (or consideration could be given to requiring the ad platforms to make this happen automatically, making it even easier for advertisers). This capability exists in most easy-to-use self-service digital ad platforms (e.g., Facebook's Ad Manager and Google's equivalent tools) and across the broader online media landscape in the open display market (described above), making it available to businesses of all types and sizes, including small businesses. In one form or another, precision targeting is already available across virtually all online advertising outlets and these capabilities are already robust, and all become increasingly precise over time.

(viii)   A precision-targeting approach to this problem is an alternative that I strongly recommend. It would allow for food companies to still use online advertising as a way to build their brands and, critically, maintain robust and healthy competition between companies in this industry, whilst making it very likely that ads would *not* be shown to consumers who should not be seeing them and for whom they are in any case not intended, i.e., children.

18.   **The government's reliance, as the main evidence for its proposal, on monitoring research from the Advertising Standards Authority (ASA 2019), is flawed because that research was not intended to, and did not, scientifically study the points for which it is being used by the government.** The ASA's monitoring study was not designed for the purpose the government has used it and, as such, is not sufficient to support the government's proposals which will have wide-reaching consequences. Government policies and regulations affecting consumers and major industries should be, as much as possible, based on relevant and reliable scientific evidence. Unfortunately, in this case, the research underpinning the government's decision to entirely ban online advertising is unsuitable for the way in which it is being applied for a number of reasons:

(i)   The monitoring methodology, which had "avatars" of different kinds of internet users (children, teenagers, adults, etc) visit 250 URLs in late 2018, is based on an artificial sample of internet sites that real-life children/teenagers would be unlikely to visit much.

(ii)   Social media, most online video (except for a small number of YouTube channels), and apps were not part of the monitoring study. This makes the study not particularly representative.

(iii)   The methodology used could not capture any information on the extent to which the ads seen by the ASA's "avatars" on their website visits were precision targeted, what criteria were used for precision targeting, and whether industry best practices for precision targeting were followed. This makes it difficult to ascertain the applicability of the ASA's report to support the government's proposal.

(iv)   Although arguably quite innovative in many ways, the ASA's avatar-based methodology (avatars visiting 250 URLs twice a day) resulted in user profiles that, as ASA pointed out, did not mimic "typical" or "real" internet user behaviour. This means that programmatic advertising algorithms, which are widely used and determine which ads users see (and where and when) would not have "known" how to categorise these avatar-users. The avatars would have likely appeared rather anomalous to these pattern-identifying algorithms and, hence, difficult to categorise or segment for targeting purposes. In practical terms, my opinion is that this would have meant that the avatars would not have realistically mimicked different types of users based on age as "seen by" the algorithms such that the outcomes cannot be treated as representative of real world outcomes.

19.   **The government's worries that child internet users, especially on social media, lie about their age such that they could see ads for HFSS products is overstated.** The government's proposal refers to an Ofcom report showing that, not surprisingly, some children have social media accounts/profiles despite their ages being below the social media platforms' minimum age requirements. This is a minority, however, and does not mean children lie (e.g., parents might have set up accounts on behalf of their children in order to "reserve" usernames for future use). In any case, stated versus actual age is not a significant issue because machine learning on the ad platforms that rely on login data can be used to reliably "guess" or infer whether a user who says they are an adult in fact is an adult, and such login data is far from being the only available indication of age anyway. Users' behaviours such as the interests they indicate, the websites they visit, and the types of content they consume or watch can feasibly be used in machine learning prediction models to predict a user's "adult" status on a platform. Hence, precision targeting can be used with respect to age, even if there is a chance, albeit small, that children have lied about their ages on social media platforms. This would be effective without having to instigate a total ban on ads for HFSS products that would also exclude bona-fide adults.

20.   **The rate of technological innovation in digital media and online advertising, combined with the growing adtech industry and the participation of the largest technology companies in the world (all with significant UK operations) suggests that the government's proposal is already somewhat archaic, and will only grow more so over time.** As relevant AI and machine learning technologies get better and better, and adtech companies continue to innovate in relation to data and content verification (especially in the open display market with programmatic approaches), there will be further improvements in the ability for advertisers, ad platforms, and publishers to very accurately include—or exclude—certain types of people from seeing online ads of all types in all kinds of media channels. The government's proposal basically attacks the problem with a blanket-coverage solution that is disproportionate and more restrictive than necessary to achieve its objectives. Instead, a solution based on smart precision targeting that takes advantage of effective and accessible AI and machine learning will not decrease in relevance over time because it will improve

in accuracy over time given the use of AI and machine learning and can be widely used on a variety of ad/media types. This would be a good use of available technologies. In fact, my view is that the ability to protect children from seeing ads for HFSS products will get better and better over time if AI-based precision targeting technologies are deployed instead of a total online advertising ban.

21. To summarise my recommendation, I strongly encourage the UK government to reconsider its position and to not implement a total ban on online advertising for HFSS products. The proposal as it stands is not appropriate as it would be overly restrictive, meaning that adults (who need not have this level of protection from the state) would face limitations on their opportunities to be informed regarding lawful products. Moreover, and critically, the "all or nothing" approach proposed by the government seems to be ill-informed in terms of the evidence base that has been considered and ignores the precision targeting technologies that are already in place and accessible to UK businesses when they advertise on virtually all online advertising platforms. Precision targeting can also be supplemented where relevant with existing restrictions that address contextually targeted ads to ensure that no part of the digital media landscape is unaddressed.

22. Instead of the current proposal, I encourage the government to seek advice on the feasibility and efficacy of a precision targeting-based solution. Specifically, they should seek advice from digital advertising experts, the ad platforms and technology companies involved in the digital advertising ecosystem, and academic experts on digital marketing/advertising.

23. The remainder of this report goes into greater detail on the above points.

V.   Precision Targeting Technologies Should Be Considered But Have Not Been Given Due Consideration

24. In the government's proposal (e.g., *Evidence Note*, executive summary) the government states that there are three possible options with respect to restricting digital/online advertising of HFSS products:

    (i)   Do nothing ("option 0")

    (ii)   Total ban ("option 1")

    (iii)   9pm watershed, same as for TV ("option 2")

25. A reasonable option that the government has not proposed is to use ad targeting technologies to restrict ads for HFSS products from being served to internet users who are deemed to be children.

26. Ad targeting technologies, often termed "precision targeting," are extremely common in digital advertising today (and have been for many years). It is highly surprising to

me that the government is not considering an option that deploys established ad targeting technologies now, as well as new and/or improved technologies in the future, to restrict HFSS advertising from internet users who are deemed to be children.

27. Most online advertising uses some degree of precision targeting. So-called "mass reach" targeting (an online version of, for example, putting up a roadside billboard) is not considered good marketing practice. In an online advertising environment, no use of precision targeting to me is tantamount to throwing darts blindfolded from an effectiveness standpoint—you might hit the target but you'll probably hit lots of other things too. Not using precision targeting in online advertising is also inefficient and wasteful of resources. Making use of mainstream precision targeting technologies, on the other hand, is as the name suggests, much more likely to be precise.

28. As precision targeting in online advertising can allow advertisers to reach just the "right" (in the target market) consumers and reduce the likelihood of reaching the "wrong" (not in the target market) consumers, precision targeting can also be used to precisely *exclude* internet users who should not see certain ads (e.g., children).

29. My understanding from the government's proposal is that online advertising is treated in a sense as "the Wild West" and it is hard to know an internet user's age (and therefore if they are an adult or child). The absence of a completely reasonable and technically feasible option from the government's proposal (i.e., using precision targeting to prevent children from being shown ads for HFSS products) seems to be consistent with this viewpoint and an apparent sense that regulating online advertising in this way would simply be too difficult.

30. I strongly disagree with this characterisation of online advertising. Precision targeting capabilities described in the previous paragraphs and that would be required to prevent children from being shown ads for HFSS products are *already the norm*.

31. For example, the two major online advertising platforms in the UK are so-called "walled gardens" of Google (including YouTube) and Facebook (including Instagram) and both platforms' ad technologies allow for sophisticated age-based precision targeting that would be effective in helping the government achieve its goals in this matter. In 2019 an estimated 67% of UK digital advertising spending went to Google and Facebook combined.[7] Further, the predominant forms of digital advertising in the UK are by far what is referred to as search advertising (i.e., ads shown in relation to searches made on search engines, which the CMA says is dominated by Google) and online display advertising (i.e., ads shown as static "banner" images, animated images, or videos adjacent to "content" in any number of places such as webpages, mobile apps, and within or next to a social media news feeds, to name the most common ones, for which the CMA says Facebook has a strong market position). In 2019 in the UK these two

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[7] https://www.emarketer.com/content/google-facebook-share-of-uk-ad-market-will-dip-below-66-percent

types of advertising accounted for 81% of all digital forms of advertising and 54% of *all* advertising (including offline).[8] This is important because the precision targeting capabilities discussed above are the norm for search and online display advertising (with Facebook and Google being the main providers).

32.   These capabilities are far from being unique to these larger players in the market. Across the broader online media landscape in the open display market as well, age-based precision targeting is common, regardless of whether it is based primarily on login data provided by the user, inferred or probabilistic age-limiting or other tools based on interests and behaviours, as described in greater detail earlier. All of these capabilities are already robust, and all become increasingly precise continually given their basis in AI and machine learning.

33.   A relevant example of how this can be used is the policy put in force by Google on 6 October 2020.[9] In short, Google has implemented a policy to "restrict" serving ads for HFSS products to minors in the UK and EU. This demonstrates that it is possible to exclude children from the audience of online ad campaigns, in this case on Google's display ad network and YouTube. It therefore seems to be an entirely unreasonable position of the government to not be sufficiently confident in the efficacy of precision targeting—and targeting exclusions/restrictions—in the normal course of highly common online advertising activities.

34.   Of the other forms of online advertising in the UK—video on demand (VOD) with TV, online classifieds, digital billboards/signage/out-of-home (OOH), online ads on national and regional newspapers, online ads with magazines, and online radio—it should be noted that not all of these allow for the same level of precision targeting, but this is evolving. Based on my analysis of the Advertising Association/WARC 2019 UK Ad Expenditure Report,[10] these forms of digital advertising amount to approximately 19% of all digital advertising, by UK spending in 2019. Although precision targeting might not yet be as robust on these channels compared to with search and online display advertising, there is still capacity for precision targeting and the technological capabilities are improving. For example, VOD with TV where there is advertising (e.g., the apps/online players for Channel 4, ITV, NowTV/Sky) allows for precision targeting, which will improve in the near future as these platforms/apps begin to allow multiple user profiles within a household (e.g., just as Netflix and Amazon Prime Video allow for multiple users—including specified "child" profiles—on their VOD apps). VOD platforms/apps typically allow for parental controls, which could be leveraged as indicators of appropriate or inappropriate types of ads to show to a given user (e.g., if

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[8] Based on analysis of Advertising Association/WARC 2019 UK Ad Expenditure Report, publicly available here: https://mediatel.co.uk/news/2020/04/30/uk-ad-market-to-lose-4bn-in-spend-this-year-says-aa-warc/

[9] Google *Update to Other Restricted Businesses Policy (October 2020)*. Publicly available here: https://support.google.com/adspolicy/answer/9919030?hl=en#:~:text=In%20October%202020%2C%20the%20Google,European%20Union%20as%20described%20below.&text=We%20support%20responsible%20advertising%20of%20food%20and%20beverages

[10] Advertising Association/WARC 2019 UK Ad Expenditure Report.

a user of a VOD app/platform has parental controls turned on then that user—or household—could easily be excluded from being shown ads for HFSS products). In one form or another, precision targeting is already available across virtually all online advertising outlets and its use could (and should) be deployed rather than the contemplated complete ban on online advertising. In fact, given that precision targeting is driven by machine learning and user data, a benefit of deploying precision targeting is that more (privacy-safe) user data could be amassed by platforms that would enable for more accurate targeting algorithms. Precision targeting can, of course, be supplemented where relevant with existing restrictions that address contextually-targeted ads to ensure that no part of the online media landscape is unaddressed.

35.   Another point worth nothing is that the government itself has an apparent belief in the efficacy of precision targeting with respect to online advertising. For example, during 2020, the UK government (largely via Public Health England's ads urging people to follow Covid-19 rules such as the "Hands. Face. Space." campaign) became the UK's biggest advertiser, with a substantial amount of this advertising using precision-targeted online advertising media. Similarly, UK political campaigns routinely make extensive use of precision-targeted online advertising.

36.   Finally, "switching on" age restrictions as part of a precision-targeting approach to setting up online ad campaigns is by and large a very easy thing to do. This is important because any solution will need to be easy to use and accessible to all types and sizes of businesses. Because of the widespread incorporation of precision targeting capabilities into online ad platforms, and the platforms' focusing on making these sophisticated tools accessible to small businesses, I believe that precision targeting can be used by all kinds of businesses.

VI.   Concerns with the government's application of the ASA (2019) Monitoring Study

37.   In the government's proposal they state "concerns over transparency, independent data and potential issues with the way HFSS adverts are targeted away from children online." The government suggests this is one of their reasons for proposing a total ban on online ads for HFSS products. Two pieces of evidence are given:

(i)   A piece of research from the ASA (2019)[11] that is being interpreted to find that children were about as likely as adults to be shown ads for HFSS products.

(ii)   Ofcom data suggesting that children falsely report (i.e., inflate) their age online, particularly for social media accounts.

38.   The ASA (2019) research appears to have played a major role in forming the government's position. The government relies in particular on an apparent conclusion that the ASA research "found" that adults and children were roughly equally likely to

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[11] *ASA Monitoring Report on Online HFSS Ads*, 2019.

see ads for HFSS products (e.g., 2.4% likely for "avatars of all ages" versus 2.3% likely for "child avatars") even though the ASA took pains to emphasize that this "finding" should not be used in this manner. The implication of this, from the government's perspective, seems to be that precision targeting technologies must not be very accurate and therefore cannot be relied on. I disagree with this for a number of reasons.

39. My opinion after having reviewed the ASA (2019) monitoring research report is that it cannot be suitably applied for the purposes for which it is being used and therefore should not be used as a basis for the government's proposal. I note that the ASA did not intend it for this use and they rightfully stated the limitations of their approach in their report; Indeed, the ASA report expressly states that "*the monitoring exercise was not intended to replicate the online behaviour of children, so it is not reasonable to extrapolate exposure levels from the data.*"[12] The reader is reminded that I am the editor of one of the top academic journals in consumer research (*Journal of Consumer Research*), recognised as one of the top (if not the top) academic researcher in marketing in the UK, and a senior research professor at the University of Oxford. I do not make this criticism of the government's reliance on this research lightly but make it with substantial experience in evaluating the applicability of this type of field research. My reasons for concluding that this research cannot be applied in this manner are as follows:

(i) The ASA methodology created seven avatar profiles (three of which were designed to mimic children, one of which was designed to mimic an adult and child sharing a device). These avatars visited what the ASA calls a "media universe of 250 URLs". These were chosen from the most popular websites in the UK. This sampling frame did not include social media, i.e., Facebook, Instagram, TikTok, Twitter, etc. YouTube was included, although only 40 YouTube channels were in the sample of 250 URLs (16% of the sample). Additionally, ads in apps were excluded from this monitoring (ASA 2019, p. 6). I note that YouTube is also largely irrelevant now given Google's recent implementation of an under-18 HFSS ad ban which had not even been announced yet at the time of the ASA research.

(ii) The exclusion of social media means that the study is not particularly representative of real life media usage. Similarly, only having 16% of the sample of URLs be YouTube channels is unrepresentative of actual behaviours (at the time of the study), given the high popularity of YouTube among young people. Excluding in-app ads further limited the research. The ASA did mention (p. 6) that they conducted "conventional manual data-capture monitoring" on publicly accessible social media accounts for 50 "major UK food and drink brands popular with younger consumers." They do not reveal which brands.

They also acknowledged (p. 7) that "…monitoring covered content posted on the brands' official websites and social media accounts visible to non-logged-in users. It did not include paid advertising on the social media platforms or information available only to logged-in users." Hence, the social media monitoring is extremely limited. All things considered, my view is that the ASA's research cannot be applied as if it neatly replicated the online behaviours of children and is therefore not close to being a fair measurement that the government can rely on for purposes of setting policies of the sort at issue in this consultation.

(iii)   To put these concerns further into perspective, research published by Ofcom[13] (which the government's proposal cites for other reasons) indicates that, in 2019, 80% of 5-15 year olds in the UK watch TV/films via VOD. Furthermore, the same Ofcom report shows 77% usage of YouTube among 5-15 years in 2019. The ASA's exclusion, by and large, of ad-supported VOD from their monitoring study therefore makes it unsuitable as a basis to draw any general conclusions regarding children's exposure to online advertising, as does including just a handful of YouTube channels in the URL sample for monitoring.

(iv)   The URL-only sample used by the ASA, therefore, is not representative of the kinds of places on the internet where children/teenagers *actually* spend time. Moreover, many of the URLs listed in the ASA's report (in Appendix 1) would be extremely unlikely to be visited deliberately by a child, such as nationalrail.co.uk, mumsnet.co.uk, and tv.com.

(v)   A key feature of the ASA monitoring methodology and report is that the avatars visited *all* 250 URLs twice daily on both desktop and mobile during 26 November and 9 December 2018. This is not at all "normal" internet user behaviour. Importantly, the ASA themselves state that this method "…is obviously not reflective of children's actual day-to-day browsing behaviour" (p. 7). In my opinion, given that the ASA acknowledges that this method does not produce browsing behaviour that realistically mimics that of the target population (children), and warns readers to not extrapolate from the study, it seems unreasonable for the government to use this as substantial evidence in this policy matter.

(vi)   Programmatic advertising, which is the norm in the UK online advertising market, uses precision targeting. Advertisers (or their agents) either manually enter targeting criteria (and exclusions) into advertising platforms' campaign tools, or they set basic criteria and allow machine learning algorithms on the ad platforms to "learn" quickly the best audience characteristics to target given a

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[13] https://www.ofcom.org.uk/__data/assets/pdf_file/0024/190518/children-media-use-attitudes-2019-chart-pack.pdf

stated campaign objective such as online sales, sending traffic to a website, or mobile app downloads.

(vii) Given the ubiquity of programmatic advertising and, hence, precision targeting capabilities in the UK online advertising market, it is problematic, from the perspective of how the government is attempting to apply this research, that the ASA monitoring study did not account for advertisers' targeting decisions (or lack thereof). Of course, this was impossible to know with their methodology and it is an understandable limitation of the study. Nevertheless, we do not know anything about the targeting in the sample of ads the ASA's bots encountered. Hence, it is reasonable to assume that the sample of ads served on the sample of URLs visited came from campaigns that were likely set up in myriad ways. We will never know if precision targeting was used much by these campaigns (keeping in mind they were run in late 2018), and if it was, if "best practice" approaches were taken. In my view, this seriously weakens the government's reliance on the ASA study's findings as a basis for concluding that precision targeting is not effective, as we don't know what we're actually looking at.

(viii) Another point of concern is that by design, albeit possibly unintentionally, the ASA monitoring study made use of user profile avatars that would look, to a machine learning algorithm used for automated ad-targeting (i.e., where the algorithm learns the best audience characteristics by, essentially, rapid trial-and-error experimentation), very odd. A real internet user is probably very unlikely to visit the combinations of websites in the URL sample used by the ASA. Hence, these avatar users would not be treated like real-life users by machine learning algorithms. This can be for many reasons, but a main one to consider is related to something called "lookalike matching." This is common in automated/programmatic ad targeting. Consider the following example. User A sees ad and "converts" (i.e., a successful ad impression). The algorithms used by, for example, Facebook and Google, can look at characteristics of user A (e.g., based on web browsing, app usage, search behaviours, locations visited, social media posts engaged with, interests inferred over time from engagement with social media posts, etc). They can then look for other users, out of the universe of potential users who could see the same ad, who are "lookalikes" with respect to user A (i.e., they have a lot of characteristics in common). These lookalike users are then served the ad and, quickly over time, the platform "learns" which lookalike features are predictive of ad conversion/success. It then finds more users with those characteristics and serves the ad to them. This is important because this system, which is currently common and will be increasingly common in the future, relies on user data indicating clear patterns of behaviours, interests, etc to make it "useful" in the lookalike matching process. The ASA's user avatars, with their multiple visits to a large number of very different websites (and no social media activity, minimal YouTube activity, and no app activity), would look very odd to ad-targeting algorithms and

certainly would be hard to classify into targetable audience segments. Hence, the ASA's profiles were far from being representative of real-life UK internet users.

(ix)   My opinion is that, because of the unconventional/unrealistic patterns of website-visit behaviour by the ASA's avatars, they would not have accurately mimicked different types of users. In practical terms, this means that there were no major differences between the policy-relevant avatars (child A, child B, teenager, shared) and the control avatar (neutral) with respect to proportions of observed ads being "likely HFSS" or "clear HFSS." This suggests that the targeting algorithms serving ads on the visited URLs did not "identify" each avatar as being from the purported segment/group, and thus much of what we see in the ASA study is ads being served to user entities that were effectively "unclassifiable" (i.e., like neutral).

VII.   Not All Children Lie About Age Online and Age Can Be Reliably Predicted Even When They Do

40.   As I mentioned in the previous section, one of the two points made by the government in their proposal in favour of a total ban on online ads for HFSS products is that children are thought to be more prevalent on major online platforms where ads are served because they misrepresent their ages.

41.   For example, the government cites Ofcom data suggesting that children falsely report (i.e., inflate) their age online, particularly for social media accounts. Specifically, the government draws this perception from Ofcom's (2019) report titled *Children's Media Use and Attitudes Report 2019 – Research Annex*.[14] Having looked at the reported data from Ofcom, I think that the government's proposal is either overly worried about children lying about their ages on social media or the government has misrepresented Ofcom's data.

42.   In the Ofcom report's research annex,[15] in 2019 33% of all UK children (5-15 years) "have a profile or account" on a social media platform. When looked at in narrowed age brackets, 70% of all children in the 12-15 year old bracket have a profile, 19% of 8-11 year olds, 3% of 5-7 year olds and 1% of 3-4 year olds (all 2019 data; page 59 in Ofcom report). Based on this, where the typical age for being allowed to have a social media account is around 12-13 (e.g., Facebook has 13 as the minimum age, but children can have very limited accounts earlier that are controlled by parents), this suggests that a minority of "under-age" children have social media accounts.

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[14] https://www.ofcom.org.uk/__data/assets/pdf_file/0024/190518/children-media-use-attitudes-2019-chart-pack.pdf
[15] Ibid

43. My sense having looked at this Ofcom report, which the government's proposal also refers to, is that there is not a major issue with younger children having social media profiles.

44. Further, it should be remembered, in light of the above discussion about the power of precision targeting, that digital advertising technologies can be used to make good, reliable predictions or inferences about users' ages. Whether or not these data points are used at the moment in the UK to restrict advertising to certain age groups for HFSS products, I do not know for sure. However, it is possible for platforms such as Facebook (including Instagram) and Google (including YouTube) to use machine learning to reliably "guess" whether a user falls into a certain age bracket, and certainly to infer if a user is likely to be a child/underage or not. Hence, even if a child user lies about their age and says they are an adult, it is feasible for ad platforms to restrict the kinds of ads they are served because of a data-driven suspicion that they are, in fact, younger than they have declared. Instead of a total online ad ban, it would be comparatively easy to simply ensure that such systems are fully implemented.

VIII. The Future: 2021 and Beyond

45. The government is looking at long-term outcomes from their proposal, given that they consider a 25-year appraisal period for costs and benefits of their options in the evidence note, and appraise health benefits over 100 years. Since the government proposal takes a long-term perspective, it is worth considering the direction of travel of the online ad market and, in particular, the technologies used to identify targets for online ads.

46. The online advertising market has a high level of technological innovation. One area in which we have seen substantial innovation and industry growth is in adtech. Although this term is used in varied ways, it broadly refers to companies that develop and provide technology services to improve online advertising. The UK's Information Commissioner's Office (ICO) refers to adtech and related approaches (e.g., realtime bidding in programmatic advertising) as "an area that has evolved and grown rapidly in recent years."[16] Indeed, the ICO's ongoing review of some forms of adtech from a data protection and privacy standpoint is a clear signal of the significance and scale of adtech in the UK.

47. A lot of the focus in adtech, as pertinent to the issue at hand, is the marrying of data from online ad platforms or ad networks, users' behaviours on publishers' websites and apps, and tools from the likes of ComScore DCE and Nielsen DAR to verify users—in milliseconds—when determining to whom to serve an ad impression. Given that adtech is a growing and evolving industry and set of technologies characterised by substantial innovation from companies small and large, based in the UK and

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[16] https://ico.org.uk/about-the-ico/what-we-do/our-work-on-adtech/

abroad, I expect to continue to see a rapid pace of new technological innovation in how online ads are targeted, served, designed, measured, reported, and more. Some of the largest technology companies in the world, all with significant UK operations, including Apple, Facebook, Google, and Microsoft, are heavily invested in the development of technologies for online advertising that make it more effective, more efficient, and safer for consumers and advertisers.

48. With ongoing innovation in online advertising, plus the involvement of major industry players, it is very difficult to determine what specifically would be the best, most appropriate, and most effective restriction on HFSS advertising (or any other restricted/limited category, for that matter). Inevitably, regulations are written based on understandings of technologies as they currently are (or have recently been), without much ability to factor in the directions in which these technologies might go. Based on my deep knowledge of digital advertising, including from my own research and from the Oxford Future of Marketing Initiative's[17] engagement with the business community on this topic, I am certain that online advertising in the future, including the near future, will improve on the following fronts:

(i) Improvements in precision-targeting capabilities above and beyond the (high) level of sophistication already in practice. This will result, in the near future and beyond, in even greater accuracy in precision-targeted online ads. Accordingly, this will further increase the probabilities of the "right" consumers seeing ads targeted at them and the "wrong" (including excluded/restricted) consumers not seeing ads they should not be seeing.

(ii) The use of artificial intelligence (AI) and sophisticated machine learning algorithms throughout the online advertising "workflow" will increase, and the AI and machine learning technologies will also improve. This will help with targeting precision, per the previous point. It will also lead to improvements in the accuracy of inferred user characteristics on websites, social media platforms, apps, etc that can be used for targeting or, in the case of predicted age or inferred "child or adult" status, whether certain types of ads for certain types of products can be served.

(iii) With government and industry support, the major ad platforms, as well as adtech companies, will improve the measurement of ad impressions at a granular level such that reporting to advertisers, regulators, and other interested/relevant parties on the characteristics of users who were served ads will be more accurate and reliable. This will make targeting solutions highly measurable and makes it even more unreasonable to consider imposing blanket-coverage solutions such as total bans.

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[17] This is a research centre at the University of Oxford. I am the director.
https://www.oxfordfutureofmarketing.com

(iv)   Related to improvements in measurements, we will see the emergence of better data not only on who was served an ad but also whether they actually looked at it or watched it. Some UK companies are already working on using eye-tracking technologies for this purpose, such as London-based Lumen Labs.

49.   I note that the government will apply the linear TV 9pm watershed to certain VOD platforms (i.e., broadcaster VOD, or BVOD). Although not within the scope of this report, it would seem more appropriate to make use of precision targeting and/or related technology-based solutions in the BVOD case as well. Regardless of this, BVOD is only part of the overall VOD market in the UK and I expect the growth in new OTT/VOD services to continue as we have seen in recent years.

50.   Finally, when evaluating a proposed government intervention of this sort, one must consider how the marketplace is likely to react in the future. If HFSS products can no longer be advertised in the online media covered by the proposed ban, those ads might be expected to move to other media where they remain lawful. The consequence of this, however, is that children using those media types will be exposed to those ads on those other media. In this case, the government assumes that 22% of the child ad exposures that will no longer occur online will migrate to other media. I do not express any opinion on whether that estimate is the correct one, but my interpretation of this is that the government assumes that its proposal will be 78% effective in reducing child exposure to the HFSS ads currently seen online. By contrast, an approach based on precision targeting is substantially less likely to displace HFSS ads to other media (where they would be seen by children) because advertisers will not need to move these ads in order to continue to reach the adult audiences they are intending to reach (because a precision targeting approach would permit them to continue to reach adults online while reaching no children). An approach based on precision targeting is therefore likely to be very close to 100% effective at reducing child exposure to these ads as opposed to the 78% efficacy that the government assumes for its own proposal.

IX.   Conclusion

51.   I am a digital advertising expert, an academic who studies the effectiveness and efficiency of online advertising, and professional who closely follows technological developments in the adtech space as well as how AI and machine learning algorithms are being used in online advertising. With this background, I cannot see any merit in the UK government's proposal of a total ban on online advertising for HFSS products.

52.   I applaud and fully support the government's interest in reducing childhood obesity and, though I am not addressing the question of whether further advertising restrictions are well-positioned to accomplish that objective, I fully understand the desire to substantially limit the potential for children to be exposed to advertising in any form that the government believes could lead to harm. However, I professionally disagree

with their proposal. It is overly broad, unduly restrictive given the availability of alternatives, not evidence based, and, thus, disproportionate.

53.   My disagreement with the government's proposal is based on the arguments covered in this report. In summary, I see four main areas where the government's proposal falls short and/or is inappropriate:

(i)   Precision targeting is a viable technological solution, yet the government has not listed it as an option that can be examined.

(ii)   The government's reliance on its main evidence, the ASA report, is misplaced and this should not have been used as a justification for this proposal.

(iii)   Machine learning can (and is) used to get around problems associated with either not knowing a user's age (because they have not given it at all) or if a user has lied about their age (i.e., the case of a child inflating their age).

(iv)   The future of online advertising, based on trends in technological innovation, the growing size of the adtech industry, and the involvement of the largest technology companies in the world suggest to me that a total ban is already out-dated and would grow more so over time. An approach based on precision targeting that makes use of AI and machine learning technologies already in broad use across online media would likely increase in efficacy over time and be more flexible in accommodating new digital media types, apps, etc that children may gravitate towards in the future.

54.   A total ban on online advertising for HFSS products will impose a major burden on the food industry, as well as on companies involved in the online advertising/media value chain (e.g., agencies, platforms, technology companies). There will be large compliance costs, enforcement will not be easy or without significant cost, and food companies will be prohibited from communicating to adults in online channels (which are of course very heavily used by adults). This final point—the prohibition of communication options—is important because it means that food companies, if they chose to do so, could not even share useful, pro-health information in the context of advertising to consumers. This might have unintended negative consequences in that adults are less educated on food choices and risks of HFSS products. This could conceivably also impact children via their parents.

55.   To conclude, I strongly encourage the UK government to reconsider its position and to not implement a total ban on online advertising for HFSS products. Protecting children from seeing ads that "we" as a society may not want them to see can be an understandable governmental goal. However, the proposal as it stands is not appropriate as it would be overly restrictive, meaning that adults (who need not have this level of protection from the state) would face limitations on their opportunities to be informed regarding lawful products. Moreover, and critically, the "all or nothing" approach proposed by the government seems to be ill-informed in terms of the

evidence base that has been considered and ignores the precision targeting technologies that are already in place and accessible to UK businesses when they advertise on major ad platforms. If the goal is to reduce child exposure to HFSS food advertising, developing an approach based on precision targeting would not only achieve that goal (i.e., reduce that exposure by as much and likely substantially more than would the proposed total ban), but would do so at far lower cost.

Professor Andrew Stephen

21 December 2020

Appendix I

Curriculum vitae

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ANDREW T. STEPHEN
L'Oréal Professor of Marketing
University of Oxford, Saïd Business School, Park End Street, Oxford OX1 1HP, United Kingdom

Employment

2015-present	University of Oxford, Saïd Business School
	L'Oréal Professor of Marketing & Head of the Marketing Faculty
	Associate Dean of Research
	Director of the Oxford Future of Marketing Initiative
	Co-Director of the Oxford AI x Sustainable Development Goals Initiative
	Co-Director of the Executive Diploma in AI for Business
2011-2015	University of Pittsburgh, Joseph M. Katz Graduate School of Business
	Assistant Professor of Business Administration
	Katz Fellow in Marketing
	(Tenured in April 2015)
2009-2011	INSEAD
	Assistant Professor of Marketing

Other Positions

2020-present	Director and Co-Founder, Augmented Intelligence Labs
2021-2023	Editor, Journal of Consumer Research
2018-2020	Co-Editor, International Journal of Research in Marketing

Education

2009	Doctor of Philosophy, Marketing (with Distinction)	Columbia University, USA
2007	Master of Philosophy, Marketing	Columbia University, USA
2004 Australia	Bachelor of Business, Marketing (with First Class Honors)	University of Queensland,
2003 Australia	Bachelor of Engineering, Civil (with First Class Honors)	University of Queensland,

Publications: Academic Journals

1. Lee, Byung Cheol, Christine Moorman, C. Page Moreau, Andrew T. Stephen, and Donald R. Lehmann (2020), "The Past, Present, and Future of Innovation Research," Marketing Letters, 31, 187-198.

2. Labrecque, Lauren, Kunal Swani, and Andrew T. Stephen (2020), "The Impact Of Pronoun Choices On Consumer Engagement Actions: Exploring Top Global Brands' Social Media Communications," Psychology and Marketing, 37 (6), 796-814.

3. Appel, Gil, Lauren Grewal, Rhonda Hadi, and Andrew T. Stephen (2020), "The Future of Social Media in Marketing," Journal of the Academy of Marketing Science, 48 (1), 79-95.

4. Grewal, Lauren and Andrew T. Stephen (2019), "In Mobile We Trust: The Effects of Mobile Versus Non-Mobile Reviews On Consumer Purchase Intentions," Journal of Marketing Research, 56 (5), 791-808.

5. Sciandra, Michael R., J. Jeffrey Inman, and Andrew T. Stephen (2019), "Smart phones, bad calls? The influence of consumer mobile phone use, distraction, and phone dependence on adherence to shopping plans," Journal of the Academy of Marketing Science, 47 (4), 574-594. (Lead article)

6. Grewal, Lauren, Andrew T. Stephen, and Nicole Coleman (2019), "When Posting About Products in Social Media Backfires: The Negative Effects of Consumer Identity-Signaling on Product Interest," Journal of Marketing Research, 56 (2), 197-210.
   Honorable Mention, Donald R. Lehmann Award

7. Zhang, Yuchi, Michael Trusov, Andrew T. Stephen, and Zainab Jamal (2017), "Online Shopping and Social Media: Friends or Foes?" Journal of Marketing, 81 (6), 24-41.
   Finalist Marketing Science Institute/H. Paul Root Award

8. Verhoef, Peter C., Andrew T. Stephen, P.K. Kannan, Xueming Luo, Vibhanshu Abhishek, Michelle Andrews, Yakov Bart, Hannes Datta, Nathan Fong, Donna L. Hoffman, Mandy Mantian Hu, Tom Novak, William Rand, and Yuchi Zhang (2017), "Consumer Connectivity in a Complex, Technology-Enabled, and Mobile-Oriented World with Smart Products," Journal of Interactive Marketing, 40 (November), 1-8. (Lead article)

9. Deighton, John, Jacob Goldenberg, and Andrew T. Stephen (2017), "Introduction to Special Issue: The Consumer in a Connected World," Journal of the Association for Consumer Research, 2 (2).

10. Chae, Inyoung, Stephen, Andrew T., Yakov Bart, and Dai Yao (2017), "Spillover Effects in Seeded Word-of-Mouth Marketing Campaigns," Marketing Science, 36 (1), 89-104.

11. Lamberton, Cait and Andrew T. Stephen (2016), "A Thematic Exploration of Digital, Social Media, and Mobile Marketing Research's Evolution from 2000 to 2015 and an Agenda for Future Research," Journal of Marketing, 80 (6), 146-172.
    Winner Shelby D. Hunt/Harold H. Maynard Award
    Winner American Marketing Association TechSIG Lazaridis Institute Prize

12. Stephen, Andrew T. and Donald R. Lehmann (2016), "How Word-of-Mouth Transmission Encouragement Affects Consumers' Transmission Decisions, Receiver Selection, and Diffusion Speed," International Journal of Research in Marketing, 33 (4).
    Finalist IJRM 2016 Best Paper Award, Lead article

13. Wilcox, Keith, Juliano Laran, Andrew T. Stephen, and Peter P. Zubcsek (2016), "How Being Busy Can Increase Motivation and Reduce Task Completion Time," Journal of Personality and Social Psychology, 110 (3), 371-384.

14. Stephen, Andrew T., Peter P. Zubcsek, and Jacob Goldenberg (2016), "Lower Connectivity Is Better: The Effects of Network Structure On Customer Innovativeness In Interdependent Ideation Tasks," Journal of Marketing Research, 53 (2), 263-279.

15. Stephen, Andrew T. (2016), "The Role of Digital and Social Media Marketing in Consumer Behavior," Current Opinion in Psychology, 10 (August), 17-21.

16. Bart, Yakov, Andrew T. Stephen, and Miklos Sarvary (2014), "Which Products Are Best Suited To Mobile Advertising? A Field Study Of Mobile Display Advertising Effects On Consumer Attitudes And Intentions," Journal of Marketing Research, 51 (3), 270-285.

17. Toubia, Olivier and Andrew T. Stephen (2013), "Intrinsic Versus Image-Related Motivations in Social Media: Why Do People Contribute Content to Twitter?" Marketing Science, 32 (3), 365-367.
    Finalist John Little Award, Lead article

18. Wilcox, Keith and Andrew T. Stephen (2013), "Are Close Friends the Enemy? Online Social Networks, Self-Esteem, and Self-Control," Journal of Consumer Research, 40 (June), 90-103.
    Included in JCR Research Curation on Social Influence and Consumer Behavior

19. Stephen, Andrew T. and Jeff Galak (2012), "The Effects of Traditional and Social Earned Media on Sales: A Study of a Microlending Marketplace," Journal of Marketing Research, 49 (5), 624-639.
    Finalist Paul E. Green Award

20. Pham, Michel Tuan, Leonard Lee, and Andrew T. Stephen (2012), "Feeling the Future: The Emotional Oracle Effect," Journal of Consumer Research, 39 (3), 461-477.

21. Avnet, Tamar, Michel Tuan Pham, and Andrew T. Stephen (2012), "Consumers' Trust in Feelings as Information," Journal of Consumer Research, 39 (December), 720-735.

22. Galak, Jeff, Deborah Small, and Andrew T. Stephen (2011), "Micro-Finance Decision Making: A Field Study of Prosocial Lending," Journal of Marketing Research, 48 (special issue), S130-S137.

23. Libai, Barak, Ruth Bolton, Marnix Bügel, Ko DeRuyter, Oliver Götz, Hans Risselada, and Andrew T. Stephen (2010), "Customer-to-Customer Interactions: Broadening the Scope of Word of Mouth Research," Journal of Service Research, 13 (3), 267-282.

24. Stephen, Andrew T. and Olivier Toubia (2010), "Deriving Value from Social Commerce Networks," Journal of Marketing Research, 47 (2), 215-228.
    Winner Donald R. Lehmann Award
    Runner up William F. O'Dell Award
    Finalist Paul E. Green Award
    Winner John A. Howard Award
    Winner Alden G. Clayton Award

25. Stephen, Andrew T. and Olivier Toubia (2009), "Explaining the Power-Law Degree Distribution in a Social Commerce Network," Social Networks, 31 (4), 262-270.

26. Stephen, Andrew T. and Michel Tuan Pham (2008), "On Feelings as a Heuristic for Making Offers in Ultimatum Negotiations," Psychological Science, 19 (10), 1051-1058.

27. Stephen, Andrew T. and Leonard V. Coote (2007), "Interfirm Behavior and Goal Alignment in Relational Exchanges," Journal of Business Research, 60 (4), 285-295.

Publications: Books and Professional Journals

28. Stephen, Andrew T. (2020), "On the Need for Evidence-Based Decision Making in Marketing," in Build Brilliant Brands: Advice from 22 of the World's Leading Marketers, Facebook: London.

29. Stephen, Andrew T. (2020), "Social Media and Luxury," in Felicitas Morhart, Keith Wilcox, and Sandor Czellar (eds), Research Handbook on Luxury Branding, Edward Elgar: Cheltenham.

30. Chen, Zoey and Andrew T. Stephen (2019), "Digital and Social Media Research," in Frank R. Kardes, Paul M. Herr, and Norbert Schwarz (eds), Handbook of Research Methods in Consumer Psychology, Routledge: London.

31. Kamleitner, Bernadette, Vincent W. Mitchell, Andrew T. Stephen, and Ardi Kolah (2018) "Your Customers May Be the Weakest Link in Your Data Privacy Defenses," MIT Sloan Management Review, 22 May.

32. Stephen, Andrew T., Peter Pal Zubcsek, and Jacob Goldenberg (2015), "People Offer Better Ideas When They Can't See What Others Suggest," Harvard Business Review, July 24.

33. Stephen, Andrew T. (2017), "Here Comes the Hyper-Connected Augmented Consumer," GfK Marketing Intelligence Review, 9 (2), 11-18.

34. Stephen, Andrew T. and Yakov Bart (2015), Social Media Marketing: Principles and Strategies, Stukent, Inc.: Idaho Falls, ID.

35. Stephen, Andrew T., Yakov Bart, and Miklos Sarvary (2013), "Making Mobile Ads That Work," Harvard Business Review, December, 706.

Business Engagement

Oxford Future of Marketing Initiative – Founder and Director
> Collaborative research and engagement with senior executives from industry to address—through research—major challenges associated with the digital transformation of marketing, media, advertising, and customer management. Current partners are Facebook, General Assembly, Google, Institute for Real Growth, Kantar, L'Oréal, Mobile Marketing Association, Teradata, Twitter, and WPP.

Research Under Review and Selected Working Papers

1. Rust, Roland T., William Rand, Ming-Hui Huang, Andrew T. Stephen, Gillian Brooks, and Timur Chabuk, "Real-Time Brand Reputation Tracking Using Social Media," under 3rd round review, Journal of Marketing.

2. Schweidel, David, Yakov Bart, J. Jeffrey Inman, Andrew T. Stephen, Barak Libai, Michelle Andrews Ana Babić Rosario, Inyoung Chae, Zoey Chen, Daniella Kupor, Chiara Longoni, and Felipe Thomaz, "How Technology is Reshaping the Customer Journey," under review, Journal of the Academy of Marketing Science.

3. Crolic, Cammy, Rhonda Hadi, Felipe Thomaz, and Andrew T. Stephen, "Blame the Bot: Anthropomorphism and Anger in Customer-Chatbot Interactions," invited for 3rd round, Journal of Marketing.

4. Fritz, William, Rhonda Hadi, and Andrew T. Stephen, "A Feast for the Eyes: How Augmented Reality Influences Food Desirability," invited for 2nd round, Journal of Marketing.

5. Crolic, Cammy, Andrew T. Stephen, Peter P. Zubcsek, and Gillian Brooks, "Social Media Use and Psychological Wellbeing," under 1st round review, Journal of Marketing.

6. Boegershausen, Johannes, Abhishek Borah, and Andrew T. Stephen, "Fields of Gold: Web Scraping For Consumer Research," working paper.

7. Thomaz, Felipe, J. Jason Bell, Andrew T. Stephen, and Yakov Bart, "The Honeymoon Effect in New Digital Advertising Channels," working paper.

8. Stephen, Andrew T., Felipe Thomaz, and Yakov Bart, "The Effectiveness of Social Media Advertising," working paper.

9. Stephen, Andrew T., Michael R. Sciandra, and J. Jeffrey Inman, "Is It What You Say or How You Say It That Matters? The Effects of Branded Content on Consumer Engagement with Brands on Facebook," working paper.

10. Du Plessis, Christilene, Andrew T. Stephen, Yakov Bart, and Dilney Goncalves, "Reducing Product Uncertainty By Increasing It In Consumer-Generated Product Reviews," working paper.

Journal Editorial Responsibilities

Editor:
Journal of Consumer Research (January 2021 to December 2023)
International Journal of Research in Marketing (October 2018 to September 2020)

Associate Editor:

Journal of Consumer Research (January 2018 to December 2020)

Editorial Review Boards:
Journal of Marketing, Journal of Consumer Psychology, Journal of Marketing Research

Awards, Honors, and Recognition

2020	Marketing Science Institute Scholar
2020	Honorable Mention, Donald R. Lehmann Award for best dissertation-based paper (for Lauren Grewal) in the Journal of Marketing or the Journal of Marketing Research in 2019
2020	Named as one of the most productive researchers in marketing for 2010-2019 based on publications in the premier academic marketing journals
2019	Varadarajan Award for Early Contributions to Marketing Strategy Research, American Marketing Association
2019	Outstanding reviewer award, Journal of Consumer Psychology
2019	Named as one of the most productive researchers in marketing for 2009-2018 based on publications in the premier academic marketing journals
2018	Finalist, Best Social Media Research, Marketing Research Society annual awards
2018	Named as one of the most productive researchers in marketing for 2008-2017 based on publications in the premier academic marketing journals
2018	AMA-Sheth Doctoral Consortium Invited Faculty
2018	Finalist, American Marketing Association and Marketing Science Institute H. Paul Root Award for best paper published in Journal of Marketing in 2017
2018	Co-chair, American Marketing Association Winter Educators' Conference
2018	Appointed to the Mobile Marketing Association's Brand Safety Council as academic lead
2017	Appointed to General Assembly's Marketing Standards Board
2017	Winner, American Marketing Association Shelby D. Hunt/Harold H. Maynard Award for the best paper published in Journal of Marketing in 2016 that makes the most significant contribution to marketing theory and thought
2017	Winner, American Marketing Association TechSIG Lazaridis Institute Prize for best paper published in marketing in 2016 that addresses issues relevant to innovation, technology, and interactivity
2017	Finalist, Best paper published in International Journal of Research in Marketing in 2016
2016	Named as one of the most productive researchers in marketing for 2011-2015 based on publications in the premier academic marketing journals
2016	Co-chair, Marketing Science Institute Taskforce, "Understand Digitized Customers in Digitized Environments"
2015	Runner up, William F. O'Dell Award for most influential paper in Journal of Marketing Research published in 2010
2015	Listed as one of the "40 Best Business Professors Under 40" by Poets & Quants
2015	Named as one of the most productive researchers in marketing for 2010-2014 based on publications in the premier academic marketing journals
2015	Awarded tenure at the University of Pittsburgh
2014	Finalist, John Little Award for best paper in Marketing Science in 2013
2014	Named as one of the most productive researchers in marketing for 2009-2013 based on publications in the premier academic marketing journals
2013-14	Co-chair, Marketing Science Institute Research Proposal Competition on Social Media
2012-13	Excellence in Research Award, University of Pittsburgh
2012-13	Excellence in Teaching Award, University of Pittsburgh
2013	Finalist, Paul E. Green Award for best paper in Journal of Marketing Research in 2012
2013	Marketing Science Institute Young Scholar
2013	Winner, best marketing case study, ecch case awards

2012	Winner, Donald R. Lehmann Award for best dissertation-based paper in the Journal of Marketing or the Journal of Marketing Research in 2010-2011
2011	Finalist, Paul E. Green Award for best paper in Journal of Marketing Research in 2010
2011	AMA-Sheth Doctoral Consortium Invited Faculty
2010	Winner, American Marketing Association John A. Howard Doctoral Dissertation Award
2010	Dean's Commendation for Excellence in MBA Teaching, INSEAD
2009	Winner, Marketing Science Institute Alden G. Clayton Dissertation Proposal Competition
2008	AMA-Sheth Doctoral Consortium Fellow

Grants, Fellowships, Fundraising

Ongoing	Oxford Future of Marketing Initiative (from 2016; funds raised approximately £2 million)
2019	Marketing Science Institute research grant, Web Scraping for Consumer Research
2019	Marketing Science Institute research grant, Augmented Reality
2017	Marketing Science Institute research grant, Social Media and Wellbeing ($5,000)
2017-18	Saïd Foundation grant for Oxford Future of Marketing Initiative (£20,000)
2016	John Fell Fund, University of Oxford (£48,065)
2011-2015	Katz Fellowship, University of Pittsburgh
2015	Marketing Science Institute research grant, Seeded WOM marketing ($7,200)
2015	Integrative Social Science Initiative grant, University of Pittsburgh ($44,000)
2013	Marketing Science Institute research grant, Social Media Content Strategy ($15,000)
2013	PNC Bank research grant, Consumer Financial Health project ($35,000)
2013	Marketing Science Institute research grant, Digital Customer Co-creation ($3,000)
2011	Marketing Science Institute research grant, Ideation in Social Networks ($20,000)
2010	Google-WPP Marketing Research Award ($80,000)

Invited Talks and Presentations

1. University of Technology Sydney (2020), invited presentation.
2. Singapore Management University (2020), invited presentation.
3. United Nations (2020), invited speaker (scheduled but cancelled due to Covid-19).
4. University of Denver (2019), invited speaker.
5. Teradata Analytics Universe Conference (2019), invited presentation.
6. L'Oréal (2019), invited speaker.
7. Kantar (2019), invited speaker.
8. AI@Oxford (2019), invited speaker.
9. Google (2019), invited Cannes panellist.
10. Social@IDC Conference (2019), invited speaker.
11. Kantar Sweden Conference (2019), keynote speaker.
12. Mobile Marketing Association conference (2019), keynote speaker.
13. Columbia Business School (2019), conference in honor of Don Lehmann.
14. Teradata Global Marketing Summit (2019), keynote speaker.
15. Monash University (2019), marketing camp.
16. Teradata Analytics Universe Conference (2018), invited presentations.
17. University of Queensland (2018), invited presentations.
18. Georgia Institute of Technology (2018), invited presentation.
19. Warwick Business School (2018), invited presentation.
20. Teradata Universe Conference (2018), keynote speaker.
21. Facebook (2018), invited presentation.
22. Oxford University Press executive meeting, invited presentation.
23. WU University Vienna (2017), invited presentation.
24. Teradata Russia Innovation Conference (2017), keynote speaker.
25. Kantar Millward Brown social media research event (2017), keynote speaker.
26. ACR Doctoral Symposium (2017), invited presentation.

27. Teradata Partners Conference (2017), invited presentation.
28. WIRED UK Generation Alpha event (2017), invited panelist.
29. Oxford-Teradata Future of Marketing Conference (2017), chair and invited presentation.
30. Cass Business School (2017), invited presentation.
31. Boston University (2017), invited presentation.
32. Interdisciplinary Centre Herzliya (2016), invited presentation.
33. University of Oxford (2016), inaugural university lecture for L'Oréal chaired professorship.
34. University of New South Wales (2016), invited presentation.
35. Melbourne Business School (2016), invited presentation.
36. University of Groningen (2016), invited presentation.
37. Emory University (2016), invited presentation.
38. Northwestern University (2016), marketing camp.
39. University of Cambridge (2016), marketing camp.
40. Bocconi University (2016), invited presentation.
41. Imperial College London (2016), invited presentation.
42. University of Texas, Austin (2015), marketing seminar.
43. AMA Mobile Marketing workshop (2015), invited presentation.
44. Marketing Science Institute "Taking Stock of Marketing" (2015), invited presentation.
45. VU University Amsterdam (2015), marketing seminar.
46. Tilburg University (2015), marketing seminar.
47. Erasmus University (2015), marketing seminar.
48. University of Connecticut, marketing camp.
49. Southern Methodist University (2015), marketing seminar.
50. University of Washington (2015), marketing seminar.
51. Linking Scholarship to Practice Pre-Conference at Winter AMA (2015), invited presentation.
52. University of Miami (2015), marketing seminar.
53. Temple University (2014), marketing seminar.
54. University of Oxford (2014), marketing seminar.
55. Centre for European Economic Research (2014), invited conference presentation.
56. Dartmouth College (2014), marketing camp.
57. CMO Club Summit (2014), keynote address.
58. Society for Consumer Psychology conference (2014), doctoral symposium.
59. IDC Herzliya, Israel (2013), marketing seminar.
60. University of Georgia (2013), marketing seminar.
61. Tulane University (2013), marketing seminar.
62. University of Houston (2013), marketing seminar.
63. Marketing Science Institute (2013), Immersion Conference.
64. Northwestern University (2013), marketing seminar.
65. Marketing Science Institute (2013), Workshop on Social Media and Social Interactions.
66. National University of Singapore (2013), marketing seminar.
67. Australian School of Business, University of New South Wales (2013), marketing seminar.
68. Harvard Business School (2013), marketing seminar.
69. Pittsburgh Area Network Scholars (2013), Pitt-CMU social networks seminar.
70. University of Queensland (2013), marketing camp.
71. University of Pennsylvania (2013), Wharton marketing seminar.
72. Australian National University (2012), marketing camp.
73. Advertising Educational Foundation (2012), annual symposium.
74. University of California Los Angeles (2012), marketing camp.
75. Marketing Academic Research Colloquium (2012), CMU, Penn State, Maryland, Pitt conference.
76. Queen's University Canada (2012), marketing seminar.
77. New York University (2012), Social Media Measurement conference.
78. Carnegie Mellon University (2011), Center for Behavioral Decision Research seminar.
79. Marketing Science Institute (2011), Digital Marketing conference.
80. Marketing Science Institute (2011), 50th Anniversary conference.
81. University of Miami (2011), marketing seminar.
82. Carnegie Mellon University (2010), marketing seminar.

83. Hebrew University of Jerusalem (2009), marketing seminar.
84. University of Pennsylvania (2009), Wharton social networks conference.
85. Columbia University (2008), marketing seminar.
86. Emory University (2008), marketing seminar.
87. London Business School (2008), marketing seminar.
88. INSEAD (2008), marketing seminar.
89. New York University (2008), marketing seminar.
90. University of California San Diego (2008), marketing seminar.
91. University of Florida (2008), marketing seminar.
92. University of Maryland (2008), marketing seminar.
93. University of Pittsburgh (2008), marketing seminar.
94. Washington University in St. Louis (2008), marketing seminar.
95. University of Technology Sydney (2008), marketing seminar.
96. University of Queensland (2008), marketing seminar.
97. Yahoo! Research (2008), research seminar.

Supervising, Dissertation Committees

Postdoctoral Researchers:
1. Gillian Brooks, 2015-2020. Assistant Professor of Marketing, King's College Business School.
2. Jason Bell, 2018-2019. Associate Professor of Marketing, Saïd Business School, University of Oxford.
3. Natalia Efremova, 2018-present. Teradata Research Fellow in Marketing and Computer Science, Saïd Business School, University of Oxford.
4. Ewan Macdonald, 2018-present. Research Fellow in Marketing and Conservation, Saïd Business School, University of Oxford.
5. Francesco Rampazzo, 2020-present. Leverhulme Postdoctoral Career Development Fellow in Consumer Demography, Saïd Business School and Leverhulme Centre for Demographic Science, University of Oxford.
6. Francesca Mazzi, 2020-present. Postdoctoral Research Fellow in AI and Sustainable Development, Saïd Business School, University of Oxford.

Doctoral Students (primary supervisor or co-supervisor):
1. William Fritz. Doctoral student, Saïd Business School, University of Oxford. Awarded Facebook Research Fellowship.
2. Lauren Grewal, graduated 2018 from University of Pittsburgh. Assistant Professor of Marketing, Tuck School of Business, Dartmouth College. Awarded AMA-CBSIG Rising Star.

Doctoral Students (dissertation committee member):
1. Christilene Du Plessis, graduated 2017 from Erasmus University. Assistant Professor of Marketing, Singapore Management University.
2. Tong Wu, graduated 2017 from University of Oxford. Assistant Professor of Marketing, Sun Yat-Sen University.
3. Michael Sciandra, graduated 2015 from University of Pittsburgh. Assistant Professor of Marketing, Fairfield University.
4. Felipe Thomaz, graduated 2014 from University of Pittsburgh. Associate Professor of Marketing, Saïd Business School, University of Oxford.
5. Yena Kim, graduated 2014 from Columbia University.

Conference Presentations

1. The Honeymoon Effect in New Digital Advertising Channels. American Marketing Association Winter Educators' Conference, Austin (2019), with Felipe Thomaz, Yakov Bart, and Jason Bell.

2. Social Media Use and Well-Being. American Marketing Association Winter Educators' Conference, New Orleans (2018), with Cammy Crolic, Peter Zubcsek, and Gillian Brooks.

3. Social Media Use and Well-Being. European Marketing Academy Conference, Groningen (2017), with Cammy Crolic, Peter Zubcsek, and Gillian Brooks.

4. Brand Reputation Tracker. European Marketing Academy Conference, Groningen (2017), with Roland Rust, William Rand, and Gillian Brooks.

5. In Mobile We Trust: How Mobile Reviews Can Overcome Consumer Distrust of User-Generated Reviews. SCP-JACS Conference, Tokyo (2017), with Lauren Grewal.

6. Spillover Effects in Seeded Word-of-Mouth Marketing Campaigns. Marketing Dynamics Conference, Hamburg (2016), with Inyoung Chae, Yakov Bart, and Dai Yao.

7. Spillover Effects in Seeded Word-of-Mouth Marketing Campaigns. American Marketing Association Winter Educators' Conference, Las Vegas, NV (2016), with Inyoung Chae, Yakov Bart, and Dai Yao.

8. Is It What You Say or How You Say It That Matters? The Effects of Branded Content on Consumer Engagement with Brands on Facebook. American Marketing Association Winter Educators' Conference, Las Vegas, NV (2016), with Michael Sciandra and Jeff Inman.

9. In Mobile We Trust: How Mobile Reviews Can Overcome Consumer Distrust of User-Generated Reviews. Association for Consumer Research Conference, New Orleans, LA (2015), with Lauren Grewal.

10. Is It What You Say or How You Say It That Matters? The Effects of Branded Content on Consumer Engagement with Brands on Facebook. American Marketing Association Summer Educators' Conference, Chicago, IL (2015), with Michael Sciandra and Jeff Inman.

11. Spillover Effects in Seeded Word-of-Mouth Marketing Campaigns. INFORMS Marketing Science Conference, Baltimore, MD (2015), with Inyoung Chae, Yakov Bart, and Dai Yao.

12. Lower Connectivity Is Better: The Effects Of Network Structure On Customer Innovativeness In Interdependent Ideation Tasks. Theory and Practice in Marketing Conference, Atlanta, GA (2015), with Peter Zubcsek and Jacob Goldenberg.

13. Lower Connectivity Is Better: The Effects Of Network Structure On Customer Innovativeness In Interdependent Ideation Tasks. American Marketing Association Winter Educators' Conference, San Antonio, TX (2015), with Peter Zubcsek and Jacob Goldenberg.

14. Collective Feelings: The Predictable and Systematic Nature of Human Expressions of Emotions Over Time. Association for Consumer Research Conference, Baltimore, MD (2014), with Nicole Verrochi Coleman.

15. How Being Busy Overcomes Procrastination and Enhances Productivity. Behavioral Decision Research in Management Conference, London, UK (2014), with Keith Wilcox, Juliano Laran, and Peter Zubcsek.

16. Product Ideation in Social Networks. European Conference on the Economics of Internet and Communication Technology, Mannheim, Germany (2014), with Peter Zubcsek and Jacob Goldenberg.

17. What Drives Engagement With Branded Social Media Content On Facebook? INFORMS Marketing Science Conference, Atlanta, GA (2014), with Jeff Inman and Michael Sciandra.

18. Encouraging Word-of-Mouth Transmissions That Lead To Fast Information Diffusion. Association for Consumer Research Conference, Chicago, IL (2013), with Donald Lehmann.

19. Product Ideation in Social Networks. ACM Conference on Electronic Commerce: Crowdsourcing and Online Behavioral Experiments Workshop, Philadelphia, PA (2013), with Peter Zubcsek and Jacob Goldenberg.

20. Research on Social Media Marketing. Marketing Science Institute Young Scholars Conference, Park City, UT (2013).

21. Ideation in Social Networks. Direct Marketing Educational Foundation Research Summit, Las Vegas, NV (2012), with Peter Zubcsek and Jacob Goldenberg.

22. From Leaders to Followers: Empirical Analysis of Individual Responses to Social Networking Activities. Direct Marketing Educational Foundation Research Summit, Las Vegas, NV (2012), with Yakov Bart and Tuan Phan.

23. Does Paying for Online Product Reviews Pay Off? The Effects of Monetary Incentives on Consumers' Product Evaluations. Association for Consumer Research Conference, Vancouver, Canada (2012), with Yakov Bart, Christilene du Plessis, and Dilney Gonçalves.

24. Are Close Friends the Enemy? Online Social Networks, Self-Esteem, and Self-Control. Association for Consumer Research Conference, Vancouver, Canada (2012), with Keith Wilcox.

25. Ideation in Social Networks. Association for Consumer Research Conference, Vancouver, Canada (2012), with Peter Zubcsek and Jacob Goldenberg.

26. Are Close Friends the Enemy? Online Social Networks, Self-Esteem, and Self-Control. American Psychological Association Conference, Orlando, FL (2012), with Keith Wilcox.

27. Ideation in Social Networks. INFORMS Marketing Science Conference, Boston, MA (2012), with Peter Zubcsek and Jacob Goldenberg.

28. Effectiveness of Mobile Advertising. INFORMS Marketing Science Conference, Boston, MA (2012), with Yakov Bart and Miklos Sarvary.

29. The Effects of Traditional and Social Earned Media on Sales: An Application to a Microlending Marketplace. American Marketing Association Winter Educators' Conference, St. Pete Beach, FL (2012), with Jeff Galak.

30. Are Close Friends the Enemy? Online Social Networks, Narcissism, and Self-Control. Society for Consumer Psychology Conference, Las Vegas, NV (2012), with Keith Wilcox.

31. Effectiveness of Mobile Advertising. Direct Marketing Educational Foundation Research Summit, Boston, MA (2011), with Yakov Bart and Miklos Sarvary.

32. Are Close Friends the Enemy? Online Social Networks, Narcissism, and Self-Control. Direct Marketing Educational Foundation Research Summit, Boston, MA (2011), with Keith Wilcox.

33. Social Sharing By Social Pumps: The Effect of Transmitter Activity on Information Diffusion Over Online Social Networks. Direct Marketing Educational Foundation Research Summit, Boston, MA (2011), with Yaniv Dover and Jacob Goldenberg.

34. The Effects of Traditional and Social Earned Media on Sales: An Application to a Microlending Marketplace. INFORMS Marketing Science Conference, Houston, TX (2011), with Jeff Galak.

35. Social Sharing By Social Pumps: The Effect of Transmitter Activity on Information Diffusion Over Online Social Networks. Complexity in Business Conference, Washington, DC (2010), with Yaniv Dover and Jacob Goldenberg.

36. Social Sharing By Social Pumps: The Effect of Transmitter Activity on Information Diffusion Over Online Social Networks. Association for Consumer Research Conference, Jacksonville, FL (2010) with Yaniv Dover and Jacob Goldenberg.

37. Micro-Finance Decision Making: A Field Study of Prosocial Lending. Association for Consumer Research Conference, Jacksonville, FL (2010), with Deborah Small and Jeff Galak.

38. Social Sharing By Social Pumps: The Effect of Transmitter Activity on Information Diffusion Over Online Social Networks. American Statistics Association Joint Statistical Meetings, Vancouver, BC (2010) with Yaniv Dover and Jacob Goldenberg.

39. Intrinsic Versus Image-Related Motivations in Social Media: Why Do People Contribute Content to Twitter? INFORMS Marketing Science Conference, Cologne, Germany (2010) with Olivier Toubia.

40. Social Sharing By Social Pumps: The Effect of Transmitter Activity on Information Diffusion Over Online Social Networks. INFORMS Marketing Science Conference, Cologne, Germany (2010) with Yaniv Dover and Jacob Goldenberg.

41. Creating Contagion. Society for Consumer Psychology Conference, St. Pete Beach, FL (2010), with Jonah Berger.

42. Micro-Finance Decision Making: A Field Study of Prosocial Lending. Society for Consumer Psychology Conference, St. Pete Beach, FL (2010), with Deborah Small and Jeff Galak.

43. Why Do Consumers Talk? Society for Consumer Psychology Conference, St. Pete Beach, FL (2010), with Donald R. Lehmann.

44. Feeling the Future: The Emotional Oracle Effect. Society for Consumer Psychology Conference, St. Pete Beach, FL (2010), with Michel Tuan Pham and Leonard Lee.

45. Why Do Consumers Talk? Association for Consumer Research Conference, Pittsburgh, PA (2009), with Donald R. Lehmann.

46. Feeling the Future: The Emotional Oracle Effect. Association for Consumer Research Conference, Pittsburgh, PA (2009), with Michel Tuan Pham and Leonard Lee.

47. Feeling the Future: The Emotional Oracle Effect. Society for Judgment and Decision Marketing Conference, Boston, MA (2009), with Michel Tuan Pham and Leonard Lee.

48. Explaining the Power-Law Degree Distribution in a Social Commerce Community. INFORMS Marketing Science Conference, Ann Arbor, MI (2009), with Olivier Toubia.

49. Creating Contagion. INFORMS Marketing Science Conference, Ann Arbor, MI (2009), with Jonah Berger.

50. Creating Contagion. Association for Consumer Research Conference, San Francisco, CA (2008), with Jonah Berger.

51. Deriving Value from Social Commerce Networks. INFORMS Marketing Science Conference, Vancouver, BC (2008), with Olivier Toubia.

52. Why Do Consumers Talk? INFORMS Marketing Science Conference, Vancouver, BC (2008), with Donald R. Lehmann.

53. On Feelings as a Heuristic for Making Offers in Ultimatum Negotiations. Society for Judgment and Decision Making Conference, Long Beach, CA (2007), with Michel Tuan Pham.

54. On Feelings as a Heuristic for Making Offers in Ultimatum Negotiations. Association for Consumer Research Conference, Memphis, TN (2007), with Michel Tuan Pham.

55. On Feelings as a Heuristic for Making Offers in Ultimatum Negotiations. INFORMS Marketing Science Conference, Singapore (2007), with Michel Tuan Pham.

Teaching

Case Studies:
1. Hampton Water Wine Company (2020).

2. L'Oréal Paris Makeup Genius (2017; updated 2018).
3. Metro Bank (2017).
4. Imagine Dragons (2016).
5. Disney World Digital Transformation (2016).
6. Beyoncé: Launching a New Product Through Social Media (2014).
7. DEWmocracy: Crowdsourcing A New Flavor of Mountain Dew (2013).
8. Lady Gaga: The Strength of a Fan Community (2013).
9. American Eagle Outfitters Skinny Skinny Jeans (2013).
10. e^2 Kickstarter Campaign (2013).
11. DeltaAssist (2013).
12. Spotify (2012).
13. The Atlantic Monthly: Strategies for Revitalizing a Brand (2011).
14. iXiGO.com in India (2011).
15. Google Street View in France (2011).
16. Nicole Nic's Sticks by OPI Launch Campaign (2010).
17. Ford Fiesta Movement, (2010; winner 2013 ecch award for best marketing case study).

Courses and Programs Developed:

1. Diploma in Artificial Intelligence for Business. University of Oxford (2021).
2. Artificial Intelligence and Advanced Analytics in Marketing, Advertising and Retail. MBA, University of Oxford (2019).
3. Driving Disruptive Growth. Executive education, University of Oxford (2019).
4. Delivering Value Through Digital. Executive education, University of Oxford (2019).
5. Digital Marketing: Disruptive Strategy. Online executive education, University of Oxford (2018).
6. Oxford-Melbourne Digital Marketing and Analytics Programme. Executive education, University of Oxford and Melbourne Business School (2018).
7. Marketing Analytics. MBA, University of Oxford (2017).
8. Oxford Strategic Marketing Programme. Executive education, University of Oxford (2016).
9. Digital Transformation of Marketing, Media, and Advertising. MBA, University of Oxford (2016).
10. Digital & Social Media Strategy. MBA and EMBA, University of Oxford (2016).
11. Marketing Core. Undergraduate, MBA and EMBA, University of Oxford (2016).
12. Customer Satisfaction Workshop. Executive Education, University of Pittsburgh (2015).
13. Market Behavior Research. PhD, University of Pittsburgh (2014).
14. Social Media Strategy. EMBA, University of Pittsburgh (2012-2014).
15. Digital & Social Media Analytics. MBA, University of Pittsburgh (2013-2014).
16. Marketing & Social Media Strategy. MBA, University of Pittsburgh (2012-2014).
17. Advertising & Social Media. Undergraduate, University of Pittsburgh (2012).
18. Marketing Strategy. PhD, INSEAD (2011).
19. Social Media. EMBA, INSEAD (2011).
20. Digital and Social Media Field Trip. MBA, INSEAD (2011).
21. Advertising & Social Media Strategy. MBA, INSEAD (2010-2011).

Service

University of Oxford
  Within the University
    Research Strategy Group, Social Sciences Division (2017-present)
    Knowledge Exchange Grants Panel, Social Sciences Division (2017)
    Knowledge Exchange and Impact Subcommittee, University (2018)
    REF Coordinators Group, Social Sciences Division (2017-present)

  Within the Saïd Business School
    Associate Dean of Research (2017-present)
    Senior Leadership Group (2017-present)
    Faculty Development and Review Committee (2017-present)
    Faculty and Research Committee (2017-present)

Executive Education Committee (2017-present)
Director of the Oxford Future of Marketing Initiative (2016-present)
Co-Director of the Oxford Initiative on AI and Sustainable Development Goals (2019-present)
Head of the Marketing Faculty (2015-present)
Marketing Governance Board, Chair (2017-present)
MBA Review Committee (2017-2018)
MBA Programme Committee (2016-2018)
School Associates Sub-Committee (2016-2017)
Oxford Answers Steering Committee, Chair (2019-present)
Leadership in Extraordinary Times, faculty lead and recurring host (2020-present)
Co-Director of the Executive Diploma in AI for Business (2020-present)

Katz Graduate School of Business, University of Pittsburgh
Business School Dean Search Committee (2014-2015)
Committees: Rankings (2013-2015), Executive MBA (2012-2015), Research Centers (2011-12)

Field
Institute for Real Growth – Board Member (2019-present)
General Assembly – Marketing Standards Board Member (2017-present)
Teradata Advanced Analytics Council – Member (2017-2019)
Mobile Marketing Association Brand Safety Council – Member (2018-2020)
American Marketing Association Winter Educators' Conference – Conference Co-Chair (2018)
INFORMS Society for Marketing Science – Vice President, External Relations (2017-19)
Marketing Science Institute taskforce on digitized consumers and markets – Co-Chair (2016)
American Statistical Association, Statistics in Marketing – Publications Officer (2015-2016)
Society for Consumer Psychology – Executive Committee (2012-present)
American Marketing Association Winter Educators' Conference – Track Co-Chair (2014, 2015)
Marketing Science Institute Research Competition on Social Media – Co-Chair (2014)
Marketing Science Institute Workshop on Social Interactions – Co-Chair (2013)