FINAL

AN ASSESSMENT OF THE VALUE EXCHANGE BETWEEN VOICE ASSISTANT PLATFORMS AND RADIO BROADCASTERS TO 2025

A report for Bauer Media- Executive summary

August 2021

EXECUTIVE SUMMARY

Bauer Media Audio has commissioned Frontier Economics to assess how the rising usage of voice assistant platforms, including smart speakers, will affect future outcomes for listeners, radio broadcasters and advertisers up to 2025. The report evaluates:

1. The value exchange between i) voice assistant platforms (both in-car and in other locations), ii) radio broadcasters and iii) advertisers.
2. The relative bargaining power between voice assistant platforms and radio broadcasters, and how this may evolve in future.
3. Any potential behaviours by voice assistant platforms that could create risks for radio broadcasters.

The analysis is focused on outcomes in the UK, but also extrapolates these results to other countries in which Bauer Media Audio is present (Sweden, Norway, Denmark, Finland, Poland and Slovakia).

Voice assistant platforms are increasingly important for consumers and radio

Amazon and Google offer keenly priced smart speakers to rapidly increase take-up and build market share. In the UK, smart speaker penetration has reached around one fifth of households in just four years[1], with Amazon capturing a 68% market share[2]. The platforms have invested in voice assistant platforms for different reasons which reflect the different strategies of the platforms (Amazon's core strategy is e-commerce, subscription services and advertising; Google focuses on advertising and Apple on hardware[3]). All recognise the growing importance of voice assistants as a user-interface for internet services and devices[4]. Major voice assistant platforms offer access to an ecosystem of services across different markets. Voice assistant platforms are also a tool to gather user data[5] which can improve the value of their related product portfolios, as well as providing a channel for supplying complementary services (such as music streaming services and podcasts).

Voice assistant platforms have in recent years become an important distribution channel for radio. While voice assistant platforms have been available for almost a decade, they have become much more widely used in recent years as Amazon, Google and Apple have invested in supplying smart speakers. For example, in-car

1 https://voicebot.ai/2019/10/11/over-20-of-uk-households-have-smart-speakers-while-germany-passes-10-and-ireland-approaches-that-milestone/

2 Based on OFCOM NATIONS & REGIONS TECHNOLOGY TRACKER - 2020. 9th January to 7th March 2020. Table 83

3 Based on the annual reports of Amazon, Google and Apple.

4 For example, the EC has stated that "Today Google Assistant, Alexa and Siri are seen as the leading voice assistants in the consumer IoT sector." (https://ec.europa.eu/competition-policy/system/files/2021-06/internet_of_things_preliminary_report.pdf)

5 This may be somewhat less true for Apple, given its strong focus on privacy.

technologies[6] have been developed to support the use of voice assistants while driving. At present, around 6% of all radio listening is done via smart speakers[7], while other types of voice assistant platforms (e.g. in-car) also play a role in radio listening. This proportion is expected to grow as the use of voice assistants increases.

The overall value exchange between radio and voice assistant platforms

To date, the rapid proliferation of smart speakers has benefited radio by increasing the reach of its services and the volume of listening[8]. Radio is able to offer its services on the voice assistant platforms (including smart speakers). In line with the standard approach for distributing content via the Internet, radio does not have to pay the voice assistant platforms any access fees.

Voice assistant platforms also appear to benefit from the presence of radio. While voice assistant platforms offer access to a wide range of audio and voice activated content, it is listening to radio and streaming music that are by far the most important activities for consumers. For example, 64% of all listening on smart speakers can be attributed to live radio[9]. Data from Ofcom shows that 63% of users have listened to radio on their smart speakers and an equal share of users have also listened to music streaming services on their smart speakers[10]. Furthermore, radio plays on-air "call to actions" which educate consumers on how to use voice assistant platforms. Radio therefore increases the penetration and use of smart speakers and voice assistants, which benefits the platforms that provide these services.

Based on reasonable assumptions, the share of the value added to voice assistant platforms by radio is likely to decline over time[11]. Conversely, voice assistant platforms will become an increasingly important distribution channel for radio, given the increasing take-up of voice assistant platforms and the general trend for radio users to switch to IP listening.

Our high-level modelling[12] suggest that in 2020 c. 3% of commercial radio revenues in the UK (or £21m) are dependent on voice assistant platforms, and by 2025 this could reach 17% (or £120m)[13]. In contrast, whereas in 2020, we estimate that c. 36% (or £154m) of voice assistant platform revenues can be attributed to

6 Android Auto, Echo Auto and Apple Carplay.

7 According to Rajar 14% of listening is via IP and the share of IP listening which is on smart speakers is 40%, hence 6% of radio listening is via smart speakers (14%*40%).

Sources: BMA Digital Audio - listening platform extract

https://radiotoday.co.uk/2019/04/bauer-boss-calls-for-collaboration-and-respect-in-radio/

8 Relative to a hypothetical scenario where smart speakers were not available.

9 https://www.rajar.co.uk/docs/news/MIDAS_Spring_2020.pdf

10 Based on OFCOM NATIONS & REGIONS TECHNOLOGY TRACKER - 2020. 9th January to 7th March 2020. Table 85

11 For example, this could arise because i) the market for voice assistant platforms may have become more saturated, which will make the voice assistant platforms less focussed on trying to attract new customers, ii) voice assistant platforms may have taken further steps to develop their own music streaming services (or radio-like services) and/or iii) voice assistants may become less dependent on radio stations helping to familiarise consumers with the use of voice assistant platforms.

12 Note there is uncertainty over the forecast revenues that can be attributed to voice assistant platforms. This report makes reasonable assumptions to forecast direct revenues (sales of smart speaker devices), and indirect revenues (incremental sales of complementary services) which result from the smart speaker.

13 Assuming the share of radio listening on smart speakers grows to 35% by 2025.

radio, this could fall to 15% (or £290m) by 2025. Were smart speaker users to become 'attached' to their smart speakers for a range of other uses, it is possible that the share of value attributed to radio could be materially less than this estimate: put differently, revenues related to smart speakers in 2025 could be affected marginally were radio not available on them. In summary, our analysis suggests that radio broadcasters are currently adding a higher relative value to voice assistant platforms than vice versa, whereas by 2025 this is projected to have reversed, in relative terms.

These projections for 2025 assume an evolution of the market absent any 'behaviours' from the voice assistant platforms that weaken the position of radio services. Such behaviours could have a material impact on the volume of listening to radio, and/or consequent revenues earned by radio via distribution on voice assistant platforms – we return to this issue below.

Figure 1 Value exchange between radio and voice assistant platforms in the UK

	2020	2025 (high forecast)
Radio		
Radio revenues (in £m)	703	703
Of which attributable to voice assistant platforms (in £m)	21	120
% of radio revenues attributable to voice assistant platforms	3%	17%
Voice assistant platforms		
Voice assistant platform revenues (in £m)	433	1,964
Of which attributable to radio (in £m)	154	290 (potentially significantly less)
% of voice assistant platform revenues attributable to radio	36%	15%
Ratio between voice assistant platforms and radio	1:12	1.1:1

Source: *Frontier*

Notes:

Given the temporary and disruptive impact of COVID-19 in 2020, the market forecast for 2020 has been derived by taking values for 2019 and adjusting them by a growth rate equal to the growth rate in previous years.

When extrapolated to other countries in which Bauer Media Audio is present, the analysis reveals a broadly similar picture – radio is likely to become less important for voice assistant platforms over time, whereas voice assistant platforms are likely to become a more significant distribution channel for radio. As non-UK countries in which Bauer Media Audio is present are starting from a lower penetration rate for smart speakers, the markets will likely be less saturated by 2025 – hence it will take longer in these countries for the relative value added by radio and smart speakers to each other to 'reverse', compared to the UK.

Bargaining dynamics between voice assistant platforms and radio will change

Bargaining dynamics between voice assistant platforms and radio broadcasters will be determined by:

- The value added by voice assistant platforms to radio broadcasters (and vice versa).
- Any outside/alternative options that voice assistant platforms and radio broadcasters have. For example, voice assistant platforms offer their own music streaming services (and radio-like services), whilst radio broadcasters also have a number of other distribution channels (e.g. DAB, AM/FM, websites).
- Any regulation (either ex-ante or ex-post) that may influence the nature of any negotiations.

At present, our estimates suggest that, at the sector-level, radio may be adding far more value to voice assistant platforms than voice assistant platforms add to radio (both in absolute terms and % terms). However, radio broadcasters do not negotiate with voice assistant platforms as one collective group. As a result, bargaining dynamics will be determined by the position of individual radio broadcasters vis-à-vis individual voice assistant platforms. Some of the larger voice assistant platforms may already have considerable bargaining power vis-a-vis some individual radio broadcasters. Conversely, there may also be some cases where larger radio broadcasters have a degree of bargaining power over the less established voice assistant platforms.

Going forward, it is likely that there will be a shift in bargaining power in favour of voice assistant platforms vis-à-vis radio broadcasters. This is because:

- Smart speakers will become less reliant on radio because:
  - By 2025, smart speaker penetration will likely have matured (at least in the UK) with slower or flat growth, and consumers will be accustomed to using the devices.
  - The further development of music streaming and other forms of audio listening/consumption may reduce the importance of offering access to a full range of radio stations.
  - It is likely that ecosystems of services and content will be more established around smart speakers. At this point, radio is likely to become one of many different services and content that consumers typically use on their smart speakers and the relative importance of radio (compared with other services) will decline.
- Radio broadcasters will likely be more dependent on voice assistant platforms because:
  - It is likely that a higher share of radio listening will be via voice assistant platforms, as the popularity of voice assistant platforms grows.
  - The number of households with dedicated radios (i.e. AM/FM/DAB receivers) may decline and radio may become less prominent in car.

The high-level analysis[14] set out in Figure 1 is consistent with there being an overall shift in bargaining power in favour of voice assistant platforms vis-à-vis radio broadcasters in future. By 2025, based on the above analysis of the overall value exchange, radio would represent a smaller share of revenues for voice assistant platforms, than voice assistant platforms represent for radio, and could also represent a lower absolute amount[15]. Further, these trends are likely to also continue after 2025.

The future commercial strategies of the voice assistant platforms are somewhat unclear

While voice assistant platforms have invested significantly in their voice assistant software and hardware, how they plan to monetise these investments over the medium- to long-term will likely vary from one platform to another. In general, the more established digital platforms face two challenges:

1. **Protecting their existing revenues**, as technology evolves. For example, Google adapted its strategy (e.g. by developing Android) as a significant amount of search moved from desktops to mobiles. It may want to update its strategy to take into account any growing share of search on voice assistant platforms. Similarly, Amazon could wish to protect e-commerce and advertising revenues as some transactions move to voice assistant platforms.
2. **Continuing to grow revenues**. Some of the digital platforms already have considerable market shares in their traditional 'markets'[16]. Therefore, they may increasingly need to look to other markets in order to continue growing consumer reach and hence revenues.

If voice assistant platforms' primary strategy is to protect existing core markets, then the impact on radio may not be negative as the platforms would prioritise the attractiveness of their voice assistants. If the strategy is to offer non-competing complementary services, then the impact could also be positive for radio since radio could help to maximise the potential user base.

The main threat for radio is likely to arise if voice assistant platform's monetisation strategy is focussed on:

- Further developing/promoting competing services, such as music streaming services (or radio-like services).
- Audio advertising - voice assistant platforms are able to leverage significant amounts of highly valuable data to offer audio advertisers.
- Exploiting their platform status to capture a greater share of the value being generated by radio e.g. by charging for access[17].

[14] Note that this framework is a simplification of the bargaining dynamics which in practice would consider the profit (not revenues) of a "trade" and would not consider the trade as a single year static analysis, but a multi-year dynamic analysis. It is nonetheless is indicative of the likely impact of the change in dynamics.

[15] For example, if smart speaker users become 'attached' to their smart speakers for a range of other uses than radio.

[16] https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4581

[17] Notwithstanding the fact that charging for access is not a normal course of business for the distribution of content via the Internet.

There are a number of voice assistant platform behaviours that could adversely affect radio

Based on the experiences of other sectors, there are possible behaviours that the voice assistant platforms could adopt, which could create risks for radio, as set out in Figure 2.

Figure 2 Behaviours that would create risks for radio

Behaviour	Issue	Examples in other markets based on third party sources
Charging for access	Voice assistant platforms could charge for offering radio on voice assistant platforms e.g. charging for prominence, or requiring a share of advertising revenues. Could charge for data to provide targeted advertising.	Prominence of apps on smart TVs[18]
Self-preferencing	From stakeholder interviews, we understand that there are already some examples of self-preferencing for audio services. Future impact will depend on whether platforms focus more heavily on competing services in future (and related advertising).	Comparison shopping[19] App stores[20] Online marketplaces[21]
Refusing to offer access to key inputs	Voice assistant platforms could slow down the development of new skills/actions, make it difficult to update skills/actions, or not provide access to useful data (important for radio advertising and content optimization).	App stores[22] Smartphones[23]
"Sherlocking" – replicating 3rd party services	Voice assistant platforms will likely have good information on the popularity of different radio stations, which they could potentially use to improve their own streaming services and/or target their services at individual users.	App stores[24] Online marketplaces[25]
Trying to control advertising slots	Voice assistant platforms could insert their advertising over radio streams (pre-roll, post-roll or mid-stream).	News publishers[26]

Source: Frontier

Conclusions

The growing role of voice assistant platforms provides both opportunities to grow reach and listening, but also presents risks to radio. Radio will increasingly rely on

18 https://www.ofcom.org.uk/__data/assets/pdf_file/0019/201493/connected-gateways.pdf
19 https://ec.europa.eu/commission/presscorner/detail/en/IP_17_1784
20 https://www.acm.nl/sites/default/files/documents/2019-04/marktstudies-appstores.pdf
21 https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2077
22 https://www.acm.nl/sites/default/files/documents/2019-04/marktstudies-appstores.pdf
23 https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1075
24 https://www.acm.nl/sites/default/files/documents/2019-04/marktstudies-appstores.pdf
25 https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2077
26 https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report.pdf

voice assistant platforms to distribute content. At the same time, radio will continue to play an important role in driving value for voice assistant platforms, though at a declining rate. By 2025, it may be useful to consider two broad possible future scenarios.

The first scenario is a continuation of the status quo, where radio broadcasters generally face reasonable terms of access to voice assistant platforms despite there being some reported issues[27]. In such a scenario, the revenue projections set out in Figure 1 could materialise, and radio would be unlikely to face a material threat to its revenues. This scenario is more likely to arise if:

- The relative bargaining power does not shift more strongly in favour of voice assistant platforms vis-à-vis radio broadcasters (e.g. because traditional radio continues to be in high demand on voice assistant platforms); and / or
- Voice assistant platforms' monetisation strategies are focussed on recovering value directly from speaker sales, e-commerce, complementary services that do not compete with radio (e.g. offering cloud data storage) and/or selling complementary devices (wearables, TV devices, in-home consumer Internet of Things devices).

However, there could also be a 'non-benign' scenario which entails a risk for radio. This could be more likely to arise if:

- The relative bargaining power shifts more strongly in favour of voice assistant platforms vis-à-vis radio broadcasters (e.g. because radio becomes very dependent on voice assistant platforms); and / or,
- Voice assistant platforms' monetisation strategy is focussed on:
  - Increasing profits from complementary audio services that compete with radio e.g. their own music streaming service (including radio like services) / podcasts / news services;
  - Extracting value from third party skills/actions e.g. by requiring payments for access to the voice assistant platforms; and/or
  - Monetising their data assets to offer audio advertising.

In the non-benign scenario, there would be a non-trivial risk that some of the share of UK commercial radio revenues that could be attributed to voice assistant platforms[28] in 2025 could be threatened. Any loss in revenues could in turn have a knock-on impact on the radio sector's ability to invest in attractive and innovative content, which could lead to a further downward spiral in revenues across all distribution channels (and not just voice assistant platforms). Furthermore, the total commercial radio revenues at risk could increase beyond 2025, as a greater proportion of radio listening is via IP, and voice assistants become more widespread.

Based on the experiences in other sectors and the likely shift in relative bargaining power in favour of voice assistant platforms, there appears to be a risk that the

[27] Stakeholder discussions highlighted a number of potential issues such as lack of access to data, or slow development of new skills/actions.

[28] Revenues that could be attributed to voice assistant platforms relate to the loss in radio advertising revenues if radio were not present on voice assistant platforms.

non-benign scenario could materialise (instead of a continuation of the status quo). In view of this, policy makers should consider the risks for both effective competition and the broader public value contribution made by radio in the event of a non-benign scenario materialising, and in turn consider the implications for the appropriate policy environment .

frontier economics

www.frontier-economics.com