Smart home devices and the media streaming ecosystem: emerging competition and consumer issues

Response to ACCC Digital Platform Services Inquiry – September 2023 Report on the Expanding Ecosystems of Digital Platform Service Providers Issues Paper

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Associate Professor Ramon Lobato, Dr Alexa Scarlata & Dr Bruno Schivinski

School of Media and Communication, RMIT University
ARC Centre of Excellence for Automated Decision-Making and Society

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About the authors

Ramon Lobato is Associate Professor (Australian Research Council Future Fellow) in the School of Media and Communication, RMIT University, and an Associate Investigator with the ADM+S Centre. A screen industries researcher with a special interest in digital distribution, Ramon has published widely on streaming services and the future of television. Ramon co-leads the Global Internet TV Research Consortium and is cofounder of MIT Press' Distribution Matters book series. His books include *Netflix Nations* and S*treaming Video: Storytelling across Borders* (NYU Press, 2019 & 2023).

Alexa Scarlata is a research fellow in the School of Media and Communication, RMIT University and an Affiliate member of the ADM+S Centre. With qualifications in law and global media communications, she studies the dynamics of online TV, the resulting impact on local production, the implications of the platform ecosystem enabled by smart TVs, and the subsequent development of media policy in these areas. Alexa serves on the editorial board of the *Journal of Digital Media and Policy* and has published in *Continuum*, *Critical Studies in Television*, and *Media International Australia*.

Bruno Schivinski is a statistician, behavioural researcher, and Senior Lecturer in Advertising at RMIT University. He consults for online service providers, websites, and scientific institutions such as the Polish Ministry of Science and Higher Education (MNiSW) and the National Science Centre (NCN). Bruno specialises in problematic consumer behaviour, social-media engagement, online branding, and user-generated content. His research has received international coverage in Forbes Magazine. His latest work can be found in the *Journal of Business Research*, *Journal of Advertising Research*, *Journal of Marketing Communications*, and *Journal of Clinical Medicine*.

Introduction

We thank the ACCC for the opportunity to respond to the Digital Platform Services Inquiry Issues Paper, *Report on the expanding ecosystems of digital platform service providers* (ACCC 2023).

We welcome the ACCC's emphasis on platform **ecosystems**, defined as "the wide range of interrelated products and services […] offered by a single or related group of companies" (ACCC 2023: 2). In our view this framing is helpful because it focuses regulatory attention on platform business models in general, and not just on the most high-profile global platform companies as exceptional institutions.

The DPI's initial investigations focused on Google and Facebook, whereas the current Issues Paper broadens the scope to Google, Amazon, Facebook/Meta, Apple, and Microsoft (GAFAM). This enlarged scope usefully captures a wider range of businesses and business models relevant to Australian consumers. However, we submit that the GAFAM framing **still does not capture the full range** of platform business practices in Australia. There are many other companies pursuing digital platform business models, including leading consumer electronics and appliances manufacturers, which also require attention.

The activities of these platform companies often exhibit the problematic tendencies already noted by the ACCC, such as self-preferencing, partner-preferencing, algorithmic bias, and excessive and opaque collection of personal data. The issue in our view is therefore not just about monitoring a select group of platforms but also about regulating platform business models more generally, so that Australian consumers are sufficiently protected no matter which device or service they are using.

To illustrate this expansion of platform business models, our submission considers one specific sector: **media streaming devices and services**. Media streaming is an area noted in the Issues Paper (page 3) as a key domain in which platform companies are investing and is included within the wider category of smart home devices. Our research indicates that media streaming is a key strategic site for platform companies, as it allows them to collect granular personal data on users which can be repurposed across their wider platform ecosystems. To advance regulatory understanding of this fast-moving sector, our submission provides evidence of current platform dynamics, business models, and associated harms for consumers and business in Australia.

Since 2017, our team of digital media scholars at RMIT University has been using methods including consumer surveys, local content audits, device testing, interviews with consumer electronics retailers, and policy analysis to understand emerging business practices in media streaming. In particular, this submission draws on findings from our 2023 report "Smart TVs and local content prominence" (hereafter *STV23*), which explores competition issues in smart TV markets and their relevance for Australian consumers.[1]

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[1] Ramon Lobato, Alexa Scarlata and Bruno Schivinski, "Smart TVs and local content prominence", submission to Prominence Framework for Connected TV Devices Proposals Paper, 2023.

Our research is supported by the Australian Research Council (ARC Discovery Project DP190100978, ARC Future Fellowship FT190100144), is independent of industry funding, and is conducted in the public interest. For further information, we refer the ACCC to our previous submissions to the DPSI, the Media Reform Green Paper, the Prominence Proposals Paper, and other recent inquiries, along with other published works containing findings from our recent research.[2]

Smart home devices and the media streaming ecosystem in Australia (Q6)

The ACCC's Issues Paper contains an illuminating visual (page 3) showing the extensive investments of GAFAM across multiple sectors. Two of these sectors are **media streaming** and **IOT & home connected devices.**

These sectors are among the most consequential for Australian consumers because of the widespread and fast-growing uptake of these services and products. For example, ACMA research found that 59% of Australian adults watch content on online subscription services and 70% listen to a music subscription service.[3] Similarly, our research found that 67% of Australian adults now use a smart TV and/or connected TV streaming device (*STV23*: 5).

To illustrate platform dynamics within media streaming, based on our analysis of current industry offerings, we have produced a more detailed visualisation (see Figure 1 below). This shows key products of consumer electronics companies across a range of media streaming services and devices. As Figure 1 reveals, platform ecosystems in the media streaming sector are more extensive than captured in the ACCC Issues Paper. For example, Google offers more than a dozen different streaming-related services and devices, all of which feed data into the user's Google Account for the purposes of automated ad targeting.

While the extent of Google's data collection is well known, we note the growing importance within platform ecosystems of consumer electronics firms, especially **Samsung** and **LG**. These firms are rarely discussed as "platforms", however, like Google and Amazon, they are actively building their own advertising and content ecosystems that use personal data gathered through setup and use of their smart devices for the purposes of advertising. For each of these companies, media streaming is a key strategic site because it enables the company to build a services business (advertising and/or data brokerage) on top of its

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[2] Lobato and Scarlata, "Australian content in SVOD catalogs: availability and discoverability", submission, 2017; Lobato and Scarlata, "Australian content in SVOD catalogs: availability and discoverability – 2019 edition", report, 2019; Lobato and Scarlata, "Response to ACMA/Screen Australia Options Paper", 2020; Lobato, "Competition and consumer issues in smart TV platforms", submission, 2022; Lobato, Stuart Cunningham and Scarlata "Response to Media Reform Green Paper", submission, 2022; Lobato and Scarlata, "Regulating discoverability in subscription video-on-demand services", in Terry Flew and Fiona Martin (eds), *Digital Platform Regulation: Global Perspectives on Internet Governance* (Basingstoke: Palgrave), 2023, pp. 209-227; Lobato, James Douglas, Scarlata and Cunningham, "Cultural policy between television and digital platforms: the case of SVOD regulation in Australia", *International Journal of Cultural Policy*, 2023.
[3] Australian Communications and Media Authority, "Communications and media in Australia: How we watch and listen to content", report, 2023.

manufacturing business, and thus access a higher-growth revenue stream to complement its core activities.

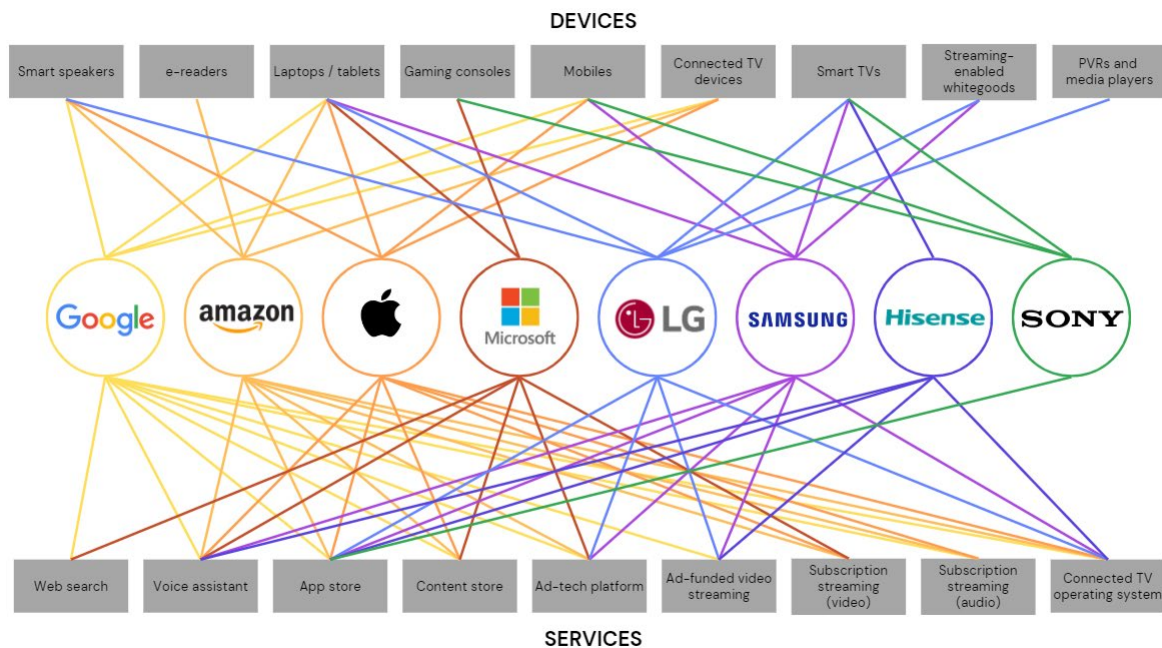**DEVICES**

Figure 1: Platform ecosystems in media streaming devices and services (Australian market)

Approaches and business strategies of digital platforms (Q2)

In our research we have observed several distinct platform ecosystem strategies within consumer electronics. These strategies may be used separately or in combination. The first strategy is to use consumer devices such as smart TVs and e-readers to **collect personal data** that is then fed into a centralised customer data profile that can be repurposed across the wider company's platform ecosystem. For example, Samsung sells a range of devices including smart TVs, mobiles, tablets, and internet-connected refrigerators. Data collected during setup and operation of these devices contribute to a Samsung consumer profile, which provides actionable data to feed Samsung's ad targeting business (Samsung Ads).

A second strategy is to build a **multi-sided market ecosystem** which then grants the firm gatekeeper and rent-extraction privileges.[4] A case in point here is the smart TV operating systems (OSs) offered by many of the firms in Figure 1 (Google, Samsung, LG, Hisense, Amazon, and Apple). The smart TV is a platform market in the sense that it brings together audiences, advertisers, content providers and software (app) developers in the shared space of the TV interface. App developers pay a commission to the smart TV OS operator on app sales, while content providers must pay the OS operator and/or manufacturer for (in some instances) inclusion in and (in all cases) premium positioning on the home screen, as well as priority integration into search results and recommendations.

The full range of prominence "boosts" that can be purchased by commercial negotiation with smart TV manufacturers and platform operators is listed in Figure 2 below. As is evident

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[4] Jean-Charles Rochet and Jean Tirole, "Platform Competition in Two-Sided Markets", *Journal of the European Economic Association*, 2003, 1.4: 990-1029.

from this list, prominence dynamics within the smart TV market have much in common with app store and mobile advertising markets previously investigated by the ACCC. In each case, a pay-for-play rule applies, allowing the manufacturer and/or OS operator – whether Samsung, LG, Amazon, or Google – to extract rents from marketplace participants such as streaming apps, broadcasters, and game developers.

Prominence within UI
- Installation of hardware shortcuts
- Presence of content/apps on home screen
- Location and integration of on-demand content
- Position amongst available third-party apps
- Inclusion and input into curated and personalised recommendation sections
- Inclusion and position within search results

Content availability and integration
- Level of integration (content ingestion, deep links and/or third-party app availability)
- Control of onward journey
- Data sharing
- Provision of additional content for platforms' on-demand or FAST services

Figure 2: Forms of prioritisation that can be purchased in smart TV deals[5]

As the federal government's recent Prominence Proposals Paper has canvassed, the "availability and relative positioning of applications, as well as the discoverability of content, can influence the content that audiences are able to access and, in turn, the sustainability of particular services."[6] In our submission to the Prominence Paper we provide detailed evidence of the impact on Australian audiences and content providers of the gatekeeping activities of smart TV operating systems. Our point here, however, is simply that the case of smart TV OS is a classic platform market model and should therefore be of regulatory interest to the ACCC, because it exhibits the general tendencies of other platform markets previously studied by the ACCC, as well as the more specific gatekeeping dynamics associated with app store and mobile advertising, where control over the OS and interface allows gatekeeping and rent-capture to occur.

Finally, we note that platform ecosystems in media streaming have several additional characteristic features that are in scope for the DPSI:

- They provide a range of services including personalised search and recommendations. In this sense, they can be considered "**specialised search services**" as per the DPSI terms of reference.

- They include their own **app stores** and **recommendation engines** which bring into play many of the anticompetitive practices (such as dark patterns, prioritisation, self-preferencing, and restricted marketplace access) described in DPSI reports.

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[5] Ofcom/MTM, "Review of TV user interfaces in the UK market: Current offerings and future developments", report, 2019: 28.
[6] Australian Government, "Prominence framework for connected TV devices - Proposals Paper", 2022: 12.

- Platforms are typically **integrated** with the parent company's other products, such as search, mobile devices, or e-retail. These integrations raise obvious risks of anticompetitive conduct such as bundling of services, self-preferencing, and marketplace blocking. For example, smart TV OS are hardwired into devices and users cannot simply switch to another platform. This means that **regulatory approaches based on choice and switching ability – as in the case of browser-based search – will not work for consumer electronics products**.

Devices and suppliers (Q12, 13)

The key players that operate across media streaming devices and services markets in Australia are Amazon, Apple, Google, Hisense, LG, Microsoft, Samsung, and Sony. A comprehensive list of their products can be found in Figure 3 below. In Australia, Samsung, Google, LG, and to a lesser extent Hisense, have become important gatekeepers in media streaming due to their control of their own smart TV OSs. Samsung, LG, and Hisense have full control over and visibility into that OS because they own the platform and underlying code. In contrast, Sony and TCL do not have their own OS and instead licence Google TV. However, Sony and TCL can still extract rents from content providers for priority positions on smart TV home screens and interfaces.

	Amazon	Apple	Google	Hisense	LG	Microsoft	Samsung	Sony
Devices								
Smart TVs	Amazon Fire TVs			Hisense TVs	LG TVs		Samsung TVs	Sony TVs
Connected TV devices	Fire TV	Apple TV	Chromecast					
Smart speakers	Echo	HomePod	Nest		ThinQ			
Mobiles		iPhone	Pixel				Galaxy	XPeria
Laptops/tablets		iPads/Mac	Chromebook		Gram	Surface	Galaxy Books	
e-readers	Kindle							
Gaming consoles						XBox		PlayStation
Services								
App stores	Amazon Appstore	Apple App Store	Google Play	VIDAA App Store	LG Content Store	Microsoft Store	Samsung Galaxy Store	PlayStation Store
Connected TV operating system	FireOS	tvOS	Android/ Google TV	VIDAA	webOS		Tizen	
Subscription services – video	Prime Video	Apple TV+	YouTube Premium					
Subscription services – audio	Amazon Music	Apple Music	YouTube Music					
Ad-funded video services	Freevee		YouTube	VIDAA TV	LG Channels		Samsung TV Plus	
Ad-tech platforms	Amazon Ads		Google Ads		LG Ads	Microsoft Ads	Samsung Ads	
Content stores – transactional	Prime Video	Apple TV	Google TV			Films & TV		
Voice assistant	Alexa	Siri	Google Assistant	VIDAA Voice			Cortana	Bixby
Web search			Google			Bing		

Figure 3: Media streaming devices and services offered by platform companies

Our *STV23* research indicates Samsung is the leading smart TV supplier in Australia and has approximately 35% share of the smart TVs currently installed in Australian homes (*STV23*: 8). The next most popular brands are LG (17%), Sony (15%), Hisense (14%) and TCL (5%). This suggests that approximately 780,000 Australians have a TCL TV, 2.1 million have a Hisense TV, 2.3 million have a Sony TV, 2.6 million have an LG TV, and 5.3 million

have a Samsung TV.[7] As we detail on pages 12-14, most of these manufacturers collect **personal data** through the TV setup process and all operate **multi-sided markets** through their app stores and/or prominence marketplaces.

Consequently, virtually all smart TV owners in Australia are encompassed within one or more of these platform ecosystems. Even the smallest manufacturers, such as TCL, have considerable gatekeeping and rent-extraction power. Our research and other government-commissioned surveys also note widespread use of streaming devices such as Apple TV and Chromecast, which have similar platform ecosystem dynamics.[8]

These findings suggest a wider "platformization" of television content, services, and viewing behaviours is underway in Australia, as in most high-income countries. Consequently, the idea of television as an algorithmically curated, personalised, app-based experience is now becoming mainstream, along with the platform ecosystem business models we have described here.

Interoperability and cross-platform competition (Q3,17)

The general pattern within media streaming device markets is to restrict, wherever possible, movement of suppliers and customers between platform ecosystems. For example, streaming video apps are unevenly supported and maintained across different smart TV platforms, meaning that access to content can be negatively affected depending on what brand of TV you own. Broadcasters, including the ABC and SBS, face a major challenge in providing universal service under these conditions, and must invest significant resources in developing, testing, and updating apps for different smart TV platforms. A previous submission from Free TV to the DPSI noted this problem as a major concern for the sector.[9]

While the current reality of multiple platform ecosystems poses challenges for content suppliers, there are also risks for both suppliers and consumers in market concentration. The smart TV OS market has become more concentrated in recent years with the exit of players including Panasonic and Philips, and growing adoption of Google's Google TV. The technical testing that we have undertaken at RMIT suggests that GAFAM platforms have a substantial advantage over consumer electronics firms in particular areas, notably search performance and app availability. Given this, we expect that over the long term, smart TV software markets will **consolidate to around a handful (possibly two or three) platforms**. This has been the case with mobile and desktop software historically, and we anticipate similar dynamics in smart TV software. The key beneficiaries will be those platforms with the largest economies of scale and network effects. The market will also become increasingly organised around data advantages and investment capacity, again favouring the biggest players. In other words, platform ecosystem dynamics within media streaming are similar to what has played out with GAFAM more generally. Consequently, the known regulatory challenges associated with GAFAM will also, over time, become evident across the rest of this sector.

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[7] Statistical estimations were based on RMIT survey data and ABS population data as of 31 March 2023. The statistical predictions are prone to error.
[8] Social Research Centre, "2022 Television Consumer Survey", report, 2023.
[9] Free TV, Submission to ACCC Digital Platform Services Report on app marketplaces issues paper, 2020.

User behaviour (Q14)

Our research has found that user behaviour in markets for media streaming devices is characterised by the same kind of agency/inertia dynamics previously described by the ACCC in their investigation into web browsers and search.[10] In other words, while a segment of the Australian user population are highly active, tech-savvy, and skilled in their use of media streaming devices, there is also a substantial number of users who have low digital skills, limited ability to switch services, and who do not customise their devices or change factory settings. These "inert" users are important from the perspective of consumer regulation because they are the most vulnerable to harm.

Our research on smart TV users in Australia has attempted to quantify this digital divide (*STV23*: 10). We found that approximately 33% of smart TV users are "**customisers**" – i.e., they are highly active in their use of consumer technologies. This user group, which skewed male and younger, know how to control all the most important aspects of their smart TVs, such as by downloading apps, customising the order of apps, and changing their privacy settings. At the other end of the spectrum, approximately 26% of the population are "**defaulters**" who lack these core digital skills, and who likely use their device on factory settings (i.e., as it came home from the store). These defaulters skew female and older.

In other words, Australian smart TV users vary widely in their competencies and confidences. This fragmentation is a matter of competition policy significance that relates directly to the matters considered in the Issues Paper. Given the growth in demand and uptake of smart home devices parsed in the Issues Paper, it is important to understand that many Australians are using these devices **on their default settings**. For these consumers, regulatory reforms premised on choice and switching ability – as in the case of browser-based search – are not effective because these consumers lack the skills, confidence or time to install and use alternative services.

Product selection and retail dynamics (Q15)

The Issues Paper asks how and why consumers choose their smart home devices. Again, our research on smart TVs provides some insight into this question. To understand common consumer questions and concerns about smart TVs (as well as retail sales practices in Australia), in 2022 we interviewed retail floor staff and managers in consumer electronics stores about how they sell smart TVs.

Our research found that consumer understanding of platform ecosystems is very limited. While most Australians understand what a smart TV is, our retailer informants told us that only a fraction of customers are aware that smart TVs come with a specific OS that controls the features of the device. Fewer still understand that they will be locked into using that OS for the life of the TV. We found that most consumers do not ask, and are not encouraged to ask, about platform and OS features during the retail exchange. Instead, the most common

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[10] Roy Morgan, "Consumer views and use of web browsers and search engines", report prepared for ACCC, 2021.

questions reported by retailers were about price, size, and the availability of certain apps (e.g., "*Does it have Netflix?*").

Additionally, we found that it is common for electronics retail floor staff to ask consumers at first instance about the other devices they own (e.g., mobile phone and other smart home devices) and suggest smart TVs with interconnected OSs accordingly. As one retailer remarked:

> *I will always put them onto the Android base, because if they're using an Android phone, they've already got the account. You just sign in and it's a lot easier to get started on… it's going to feel familiar.* (Sales floor staff member from a retail department store in regional Queensland, July 2022.)

This reflects the competitive advantages of incumbency in platform ecosystem markets, where established players can leverage consumer familiarity with existing products into new sales, and thus platform expansion.

We also found that issues such as personal data collection, privacy, tracking, and advertising were very rarely discussed at point of sale, suggesting that consumer awareness of these issues is low.

Consumer benefits and harms (Q7, 11)

Regulatory decision-making must naturally weigh consumer benefits and harms to understand the public impact of technologies and services. In our view, the benefits of platform dynamics (Q7) in media streaming are substantial. On the positive side, the platform structure of markets, first in mobile and now in smart TV, has allowed the growth of an extensive third-party app ecosystem. The maturation of streaming markets in recent years has increased user access to content, by building user-friendly distribution portals and subscription bundles that offer wide selections of content (albeit with significant fragmentation in the case of video) at a reasonable price. The usability of digital interfaces in smart TVs and other streaming devices has also improved in recent years due to investments made by manufacturers and platform operators.

However, these obvious benefits are compromised by the real potential for consumer harms (Q11) that have simultaneously arisen with the growth of the platform ecosystem but whose full effect is not always known by consumers, competitors, or regulators. The key consumer harms in our view are *excessive data collection, dark patterns, restricted and/or biased access to services, opaque bundling* and *bill-shock*.

Excessive data collection (Q4,16)

The scope of personal data collected by media streaming devices is extensive. In our research we investigated this issue through lab-based device testing of current smart TVs.

Our findings suggest that Australians who stream content through their smart TVs are sharing substantial personal data with both TV manufacturers and platforms. This is because the process of unboxing the smart TV and connecting it to the internet typically requires the user to set up a user profile. While it is possible to use smart TVs entirely offline (i.e., in broadcast TV-only mode), our research suggests that the vast majority (94%) of smart TV users are connecting their TVs to the internet and thus knowingly and/or unknowingly feeding various forms of personal data into platform ecosystems, as we explain below.

Samsung (Tizen)	LG (webOS)	Sony or TCL (Google TV)	Hisense (VIDAA)
Asked for during setup			
Requested: Name Email address Phone number Date of birth Credit card information Device password Device PIN Account password Account PIN Other subscriptions TV serial number Country/postcode	**Required:** Language Country State Postcode **Requested:** Age Email address Account password Other subscriptions	**Required (by manufacturer):** Language Country State **Requested (by manufacturer):** TV serial number **Required (by Google):** Name Email address Device password Account password **Requested (by Google):** Home address Other subscriptions	**Required:** Language Country State **Requested:** Name Email address Phone number Credit card information Account password Account PIN Other subscriptions
Captured during use			
App downloads App usage Time of use Duration of use Display ads viewed on smart TV interface In-app content viewed (if ACR enabled) Device identifier Location Other devices on network Language Region/country Search history Voice commands Navigation			

Figure 4: Data collected by smart TVs in Australia during setup and use

Figure 4 lists the many types of personal data collected by 2022-model smart TVs and their manufacturers. The first stage of data collection occurs **during setup**. All smart TV manufacturers either require or encourage the user to create or log into a customer account with the manufacturer – i.e., a Samsung, LG, Google or VIDAA account. This allows the

manufacturer to link a user to their other smart home devices, such as smart speakers or internet refrigerators.

The optional information requested by manufacturer accounts is considerable. We found the most onerous to be the Sony and TCL implementations of Google TV, which require the user to set up or log into an existing Google Account. Personal data gathered during this process can include a profile photo, home and work addresses, education and employment histories, and permission to share location data and information about contacts from any other signed in devices. Samsung and VIDAA accounts also ask users for their credit card information.

While these data requests can be declined, our STV23 research on digital skills suggests it is likely that many Australian users – especially those with low digital skills – will provide more personal information than they need to.

There is also a significant amount of passive user data collected while Australians are using their smart TVs. User actions such as app downloads, app usage, and viewing times, are tracked to build up a detailed data profile of each user. Devices share information with a wide range of third-party services including data brokers and ad-tech platforms.[11] In the case of Fire TV, Android TV and AppleTV, viewing data are integrated into existing customer data-profiles arising from shopping and web search/use. A customer's TV viewing activity can effectively be used by platforms as a proxy for their future consumption practices.

In some circumstances smart TVs can track what customers are watching *within third-party apps* such as Netflix or Stan. **ACR (Automated Content Recognition)** is a content ID technology built into smart TVs that uses video fingerprinting to identify specific shows, episodes, movies, and ads ("what the glass sees"), and to feed this viewing data back to advertising/business partners. ACR is pre-installed into many smart TVs via covert apps such as Samba, a tracking app masquerading as a personalised recommendation engine. Users typically have the option to accept/deny ACR during setup or via adjusting settings, however the data collection aspect of ACR is often obfuscated during setup and/or users are often pushed into accepting ACR in exchange for the promise of advanced recommendations or personalisation features. Based on our research into the digital skills constraints of Australian consumers, we regard these practices as deceptive and believe stronger controls are needed to prevent the misrepresentation of ACR-based apps such as Samba. Their benefits to the consumer are questionable and their harms clear.

Our research found that **only a quarter (26%) of Australian smart TV users are comfortable with the manufacturer of their devices monitoring what they watch and sharing this data with advertisers** (*STV23*: 25). This is on par with recent findings on Australian consumer views on privacy data published by the Consumer Policy Research Centre.[12] Given the varied technical competencies of consumers considered above, and the dark patterns being employed by smart TV platforms, which we turn to next, many Australians are unaware that they have acquiesced to the scale of data collection occurring during device setup and use.

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[11] Hooman Mohajeri Moghaddam et al, "Watching You Watch: The Tracking Ecosystem of Over-the-Top TV Streaming Devices", conference proceeding, 2019.
[12] Consumer Policy Research Centre, "Not a fair trade: Consumer views on how businesses use their data", report, 2023.

Finally, there have been several high-profile instances of smart TVs "spying" on users (always-on microphones/cameras), although this practice is exceptional rather than typical. Smart TVs can also be covertly hacked and used for surveillance purposes – a risk common to many smart home devices. While these instances receive significant media attention, we believe the more relevant harms from a consumer policy perspective are related to routine personal data collection and use of ACR within smart TVs.

Dark patterns (Q16)

Like mobile and desktop platforms, smart TVs platforms are full of dark patterns in their user interface design that have the potential to result in consumer harm.[13] Examples that we observed during our testing include:

- *False hierarchy*: Smart TVs encourage users to use a smartphone, rather than their remote, when setting up the TV for the first time. This allows the manufacturer to link a mobile identifier with the smart TV identifier so the user can be tracked across devices for advertising purposes (e.g., as seen in Figure 5 below, Samsung describes the former as "quick and easy", and the latter as "step by step").

- *Data-grabs*: Users are either forced or encouraged to sign up for an account with the TV manufacturer/platform to use the device or access "further" benefits (Figure 6). Additionally, we found that an "Accept all" or "Select all" box is always pre-ticked in the terms and conditions menus during setup, enabling click-through without reading and concealing the extent of the data being collected (Figure 7). Privacy opt-outs are buried within sub-menus.

- *Disguised advertisements:* Ad labelling in smart TV recommendations is rare and this is particularly significant because our research found that more than half (55%) of Australian smart TV users cannot tell the difference between a paid advertisement and a content recommendation (*STV23*: 24-25).

- *Forced continuity:* Subscription cancellations require many steps to action.

- *Redirection:* Settings menus can be difficult to find and use, and the ability for users to customise their home screen layout is often limited (some TVs do not allow users to modify pre-installed app shortcuts) or hidden.

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[13] Consumer Policy Research Centre, "Duped by Design - Manipulative online design: Dark patterns in Australia", report, 2022.
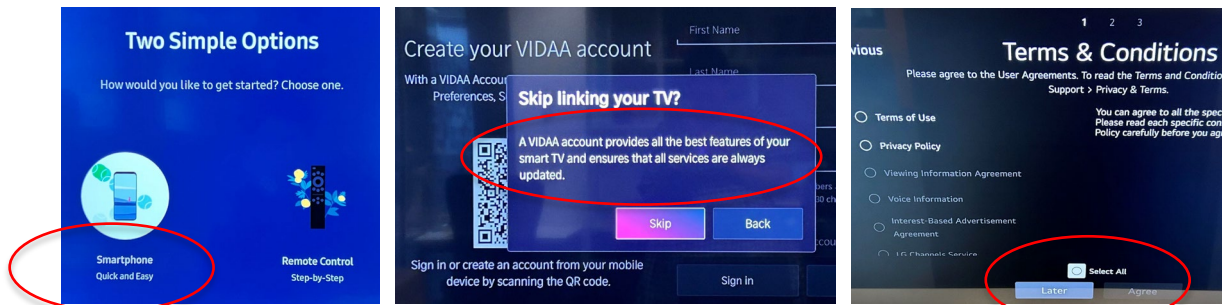
Figures 5-7: setup options on Samsung, Hisense, and LG smart TVs

Restricted and/or biased access to content and services (Q9)

The Issues Paper asks about the extent to which digital platform services use pre-installation arrangements and strategies like self-preferencing. In this section we consider how smart TV platforms use these practices, resulting in restricted and/or biased access to content and services for Australian audiences. This also has implications for the ability of content providers to compete in the smart TV ecosystem, as we briefly consider throughout.

One way that large digital platform service providers can leverage their market power across their services and limit competitive threats is via **pre-installation**.[14] These occur when "an agreement between two parties allows for a product or service to be pre-installed or set as a default on another product or service" (ACCC 2023: 6).

Smart TV app pre-installation entails a range of commercial benefits, including deep linking of search results and inclusion in recommendation rows.[15] Therefore, services that are not pre-installed – even those that are otherwise available in the app store – may be disadvantaged in their visibility when compared to pre-installed services. This is particularly onerous for public service broadcasters, who cannot pay to participate in this exchange. Responding to this challenge has been at the heart of the UK government's recently announced regulatory approach.[16]

The federal government's recent commitment to legislate a prominence framework "to ensure local TV services are easy for Australian audiences to find on connected TV devices" demonstrates that the pre-installation of consumer applications and the positioning of apps and content on smart TVs is a matter of significant concern for regulators.[17] Our research considered the impact of pre-installation arrangements on access to local TV services, but this is just one example of the impact of pre-installation on consumer access to content and services.

Our research (*STV23*: 15-16) found that while several US apps – namely Netflix, YouTube, Prime Video, and Disney+ – come preloaded on major smart TVs sold in Australia as a result of commercial deals, the installation of local broadcaster video-on-demand (BVOD)

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[14] ACCC, "Digital Platform Services Inquiry Fifth Interim Report", 2022.
[15] Ofcom/MTM, "Review of TV user interfaces in the UK market: Current offerings and future developments", report, 2019.
[16] Department for Culture, Media and Sport, UK Government, Draft Media Bill, 2023.
[17] Australian Government, "Prominence framework for connected TV devices - Proposals Paper", 2022: 5.

services is patchy. Four out of five of the top brands carry the full range of BVOD apps in their app stores (Figure 8). Interestingly, Samsung and LG (representing 52% of the smart TV market in Australia) do not pre-install any local BVOD apps. The result is uneven visibility for BVOD services, compared to high visibility for major US services.

When you factor in user skills the situation results in reduced choice for consumers. As Figure 9 below demonstrates, 23% of Australian smart TV users presently have limited access to the local BVODs and 19% have no access at all, due to their inability to download apps and the current pre-installation arrangements in place. These pre-installation arrangements allow smart TV manufacturers to act as "critical gateways to the audience."[18]

Manufacturer (platform)	Tizen (Samsung)	webOS (LG)	Google TV (Sony)	VIDAA (Hisense)	Google TV (TCL)
ABC iView	–	–	✓	✓	✓
SBS On Demand	–	–	✓	✓	–
7Plus	–	–	✓	✗	✓
9Now	–	–	✓	✓	✓
10Play	–	–	–	✗	–

Figure 8: Australian BVOD apps on smart TVs – green tick: pre-installed; yellow dash: available in app store; red cross: unavailable in app store

	Samsung (0 of 5 BVODs preinstalled)		LG (0 of 5 BVODs preinstalled)		Sony (4 of 5 BVODs preinstalled)		Hisense (3 of 5 BVODs preinstalled)		TCL (3 of 5 BVODs preinstalled)	
Market share (% users)	41%		20%		17%		16%		6%	
Digital skills (% users)	Can download apps	Cannot download apps	Can download apps	Cannot download apps	Can download apps	Cannot download apps	Can download apps	Cannot download apps	Can download apps	Cannot download apps
	28%	13%	14%	6%	12%	5%	9%	7%	4%	2%
Access to BVODs	Good access	No access	Good access	No access	Good access	Limited access	Limited access*	Limited access	Good access	Limited access

Figure 9: Access to Australian BVODs on smart TVs after user customisation
(*Note: 7Plus and 10Play are currently unavailable on Hisense TVs, as above)

Another harmful business practice is **self-preferencing.** Self-preferencing refers to prioritisation of in-house services in search results, recommendations, and other marketplace services. As the ACCC has noted, self-preferencing is a significant problem in platform markets because it "risks disadvantaging individual sellers who compete directly against the online marketplaces' own products."[19] In fact, "anti-competitive self-preferencing

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[18] Free TV, Submission to Prominence framework for connected TV devices, 2023: 3.
[19] ACCC, "Digital Platforms Services Inquiry Interim report No. 4 - General online retail marketplaces", 2022: 73.

may have caused harm in the supply of several different digital platform services including search, app store and ad tech services."[20]

In 2019, the UK media regulator Ofcom commissioned a detailed study on this topic in relation to TV interfaces.[21] It found that while most aspects of TV "real estate" are now essentially for sale, in the case of the large tech players – especially Google and Amazon – there is also extensive self-preferencing of owned-and-operated services occurring. For example, smart TVs running Android TV prioritise YouTube and Google Play in search returns, while Amazon's Fire TV prioritises content available through Amazon Prime Video.

Our research has investigated the variety and prevalence of prioritisation techniques within current smart TVs sold in Australia and identified the same issues occurring here (*STV23*: 22-24). We found several examples of self-preferencing, including:

- Google TVs (Sony and TCL) positioning YouTube and Google Play Movies and TV above other services in search results; and

- Samsung TVs positioning Samsung TV Plus titles and channels in the first row of the home-screen recommendations.

We also found evidence of search and recommendation bias, poor integration of third-party apps, and prioritisation of advertiser content over relevant local content in smart TV interfaces.

These practices pose a risk to consumers. Many consumers have limited or no understanding of self-preferencing and prioritization and how they shape the content choices on their TV. Consumer choice is compromised when many of the content options displayed to the user are there because they are paying in some way for the screen real estate. These practices also present a challenge for content providers outside this commercial system, including public-service broadcasters, whose content is again rendered less visible and discoverable than content from the platforms' commercial partners.

Opaque bundling and bill-shock (Q9)

Finally, some smart TV platforms are bundling recurring subscription and service costs into single line-item billing. For example, users of Amazon Fire TV in the US can add HBO Max as an optional service. Fees are billed monthly and bundled with other channels or service fees (e.g., Amazon Prime membership + HBOMax) and then billed as a single line item on the customer's credit card statement. For many consumers, it is hard to keep track of their subscriptions, because they do not see separate line items on their credit card statements. These billing arrangements can result in customers being charged long-term for channels they no longer use or are unaware they subscribe to. In multi-user households, there is also

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[20] ACCC, "Digital Platform Services Inquiry Fifth Interim Report", 2022: 125.
[21] Ofcom/MTM, "Review of TV interfaces in the UK market: Current offerings and future developments", report, 2019.

a risk of unwanted subscriptions being added by other family members or housemates (a risk mitigated, but not eliminated, by password/account controls).

While these billing arrangements are still nascent in Australia, norms in the US market suggest these bundling practices will become widespread over the next few years.

Regulatory options

The most effective regulatory remedies to these issues are likely to be those that clamp down on anticompetitive and harmful business practices *within* media streaming platform ecosystems, rather than those encouraging users to switch to a competitor product. As the ACCC's Interim Report notes, "broad-based practices" are often difficult to regulate, but in our view such regulation will be crucial to avoid the most significant consumer harms.[22]

To this end, we offer the following recommendations:

- We support **prohibitions against exclusionary conduct**, including **anti-competitive self-preferencing and leveraging** – especially measures designed to prevent "search engine operators from favouring their own downstream services [and] demoting rival services" (86). This will help to reduce problematic instances where smart TV platforms leverage their market power into a related service.

- We support a **Fairness by Design duty** similar to that proposed by the UK's Competition and Markets Authority.[23] This principle-based obligation would encourage platforms to respect consumer choice and autonomy in their interface design. In particular, we support a requirement that "choices and defaults provided by the platform are presented in a way that facilitates informed consumer choice over the use of their personal data" (98). This may also reduce the use of dark patterns, or at least curtail their worst excesses. It is important that an expert independent body be charged with oversight of the FBD duty, so that compliance can be measured over time.

- We support **transparency disclosures** by smart TV platforms. For example, the ACCC could require platforms to **label content, apps or other services** that have paid for prominence. As is currently the case with Google web search, these items could be marked with a small "Ad" label or a similar indicator. This would help consumers distinguish between organic versus artificially promoted content.

- We support the rights of Australians to **modify their devices** in line with their existing statutory consumer rights. To this end, TV platforms should be forbidden from pre-installing "undeletable" apps, excluding software essential to the functioning of the device. Consumers should also have the option to rearrange home screen icons and

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[22] ACCC, "Digital Platform Services Inquiry Discussion Paper for Interim Report No. 5: Updating competition and consumer law for digital platform services", 2022.
[23] Competition & Markets Authority, "Online platforms and digital advertising: Market study final report", 2020.

other design elements to the fullest extent possible, to moderate the effects of commercial pre-installation and prominence agreements.

- We support a public-interest **prominence rule** (i.e., a requirement that smart TV manufacturers provide due prominence to a limited number of apps deemed to be of public interest, such as public broadcasters and nationally significant media companies). In practice, this would require manufacturers to pre-install designated apps and to provide them with a reasonably visible home-screen position. This rule would help to ensure the long-term discoverability, and therefore viability, of local media organisations within the global TV platform ecosystem. We would refer the ACCC to the UK media regulator Ofcom's 2019 prominence proposal which provides a detailed set of recommendations in this regard.[24]

Given the dynamic nature of technology markets, it may be impractical to specify detailed measures in legislation. Legislation can instead refer instead to general principles. The ACCC and ACMA should be empowered with the authority to enact specific regulatory measures in line with these overarching aims.

Conclusion

In this submission we have considered how media streaming devices and services are a strategic site for platform companies to collect granular personal data on users which can be repurposed across their wider platform ecosystems. Using our recent research into smart TV users and operating systems, we have provided evidence of numerous potential consumer harms that warrant policy intervention.

The case of media streaming highlights inherent risks in current technology development and corresponding limitations in platform regulation. We believe the ACCC's definition of platforms needs to capture the diversity of platform-enabled devices and platform-powered services so it can respond appropriately to consumer harms. It must do so in a future-proof manner that can capture present and future derivatives of current platforms.

We acknowledge the competition and consumer risks in media streaming are significant and bear directly on longstanding issues in consumer, competition, and media policy including media diversity, marketplace access, and consumer protection. The ACCC's approach to platform regulation would therefore benefit from consideration of the overlaps and differences between desktop, mobile and TV platforms, as well as other IoT/smart-home platforms in development, and from expanding the definition of "platform" to include non-GAFAM institutions such as the consumer electronics firms discussed in this submission.

The regulatory reforms we have suggested in this submission, based on our extensive empirical research, should help to make the emerging platform economy fairer, more equitable, and transparent for consumers. These measures also serve the larger objective of ensuring that the ACCC's platform regulation approach can be adapted for the future

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[24] Ofcom, "[Review of prominence for public service broadcasting: Recommendations to Government for a new framework to keep PSB TV prominent in an online world](#)", report, 2019.

dispersal of platform-like functions and related risks across many areas of the Australian economy.

Our research team would be happy to provide more detailed information on any aspect of media streaming discussed here, or to meet with the ACCC to discuss these matters further.