

## Research Report

# Streaming Culture

**Raphael Leung**, Nesta

**Martin Kretschmer**, CREATE, University of Glasgow

**Bartolomeo Meletti**, CREATE, University of Glasgow

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Led by Nesta and funded by the Arts and Humanities Research Council as part of the UK Government's Industrial Strategy, the Centre comprises of a consortium of universities from across the UK (Birmingham; Cardiff; Edinburgh; Glasgow; Work Foundation at Lancaster University; LSE; Manchester; Newcastle; Sussex; Ulster). The PEC works with a diverse range of industry partners including the Creative Industries Federation.

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## About the authors

**Raphael Leung** is a PEC researcher and a Data Scientist at Nesta.

**Martin Kretschmer** leads the PEC's area of work in Intellectual Property, Business Models, Access to Finance and Content Regulation. He is Professor of Intellectual Property Law at the University of Glasgow, and Director of CREATE, the UK Copyright & Creative Economy Centre. In 2020, he is a Weizenbaum Fellow at Humboldt Universität and Wissenschaftszentrum Berlin.

**Bartolomeo Meletti** is a PEC researcher and Creative Director, CREATE, University of Glasgow, and Copyright Services Delivery Manager, Learning on Screen.

## Contents

<b>1</b>	<b>Summary</b>	<b>3</b>
<b>2</b>	<b>Data</b>	<b>5</b>
<b>3</b>	<b>Comparing streaming and downloading trends (2013-18) by types of cultural content</b>	<b>6</b>
	The rise of streaming for music tracks and feature films	6
	Comparisons to trends observed in revenue data	8
	The socio-demographics of non-streamers	10
	The socio-demographics of digital consumers	12
	The socio-demographics of quarterly spending	16
<b>4</b>	<b>Brand recognition of cultural platforms</b>	<b>18</b>
	Awareness of legal options and copyright infringement	18
	Most well-known cultural consumption platforms	21
<b>5</b>	<b>Conclusion</b>	<b>24</b>
	<b>Bibliography</b>	<b>26</b>

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## Summary

### Looking back at the rise of streaming

Over the past decade, digital technologies have brought huge changes in how we consume culture, and it is likely that the next ten years will be no different. This paper looks back at one of the major innovations in culture consumption of the past decade – streaming. Using five waves of a survey from 2013-18 commissioned by the UK Intellectual Property Office, we characterise the changing online culture consumption behaviours of UK adults aged 12 and above, with a focus on streaming.

We show that the propensity to consume digitally (as well as how much is spent on digital content) varies strongly with age for film, TV and music. Even after accounting for Internet access, age and social class predict whether people participate in streaming at all. The data does not, therefore, support a narrative that everyone will become a digital streamer. Inclusive participation (and different affinities for digital engagement with culture) must remain relevant parts of the discourse as we assess future innovations in cultural consumption.

### Rates of uptake of digital consumption across demographics

The surveys evidence how streaming rapidly became an important medium for consumption of feature films and music tracks/ albums. Adopting the surveys' definition of digital consumption as streaming or downloading in the past three months, we show, for different types of cultural content, how digital consumption varies across groups (age,

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gender, social class) and how this has changed over time. The age differences are marked: digital consumers are much more likely to be younger for audiovisual (film, TV and music) content and video games, but not for books. Controlling for other demographics, across all five years of surveys, men are significantly more likely than women to digitally consume video games (and, to a lesser extent, music tracks or albums), and the middle class<sup>1</sup> is significantly more likely than the working class to digitally consume TV programmes, music tracks or albums, and books.

We also show how spending on digital consumption varies by age, gender, social class and by infringement behaviours. Unlike the propensity to consume digitally, spending (from both online and offline sources) does not have a straightforward association with age, though people aged 35 or under report higher than average spending for all cultural content (consumed digitally or not) covered by the survey, with the exception of books where there is no such tendency.

#### Brand awareness of digital consumption platforms

Finally, we characterise awareness and use of the most well-known cultural platforms. We suggest that, in a complex digital consumption system, brand recognition may impact on copyright infringing behaviours among some infringers – insofar as awareness of legal platforms is lowest among respondents who streamed TV from illegal sources only.

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<sup>1</sup> Social class here refers to the National Readership Survey (NRS) grades: middle class is grouped as ABC1 and working class as C2DE.

## Data

The Online Copyright Infringement (OCI) Tracker surveys – designed under the supervision of Ofcom in 2012, and commissioned since 2013 by the UK Intellectual Property Office every year (except 2014) over a period of three months (March-May) – explore online behaviour, copyright infringement and digital consumption in relation to six main types of online content: music, film, TV programmes, books, video games and computer software. Five waves of OCI surveys from 2013 to 2018 inclusive (except 2014) were used for this analysis. A data development project within the work programme of the AHRC Creative Industries Policy & Evidence Centre enabled the consolidation of the survey data into a dataset suitable for longitudinal analysis ([OMeBa 2019](#)).

## Findings

Over the same period that the five waves of surveys cover (2013-18), trends in consumption towards digital sources first towards downloading (eclipsing analogue consumption), and then towards streaming (eventually eclipsing all other modes of consumption) have been documented via revenue data and surveys alike ([Entertainment Retailers Association 2017](#); [Entertainment Retailers Association 2018](#); [Waldfoegel 2018](#); [Intellectual Property and Youth Scoreboard 2019](#)).

As one of the key innovations of the 2010s in how we consume culture, streaming is likely to continue to become more important to the creative industries in the next decade. The OCI surveys allow us to shed light on some trends in streaming across different types of

cultural content, point out disparities in terms of uptake by socio-demographic groups, and suggest some policy recommendations.

## **Comparing streaming and downloading trends (2013-18) by types of cultural content**

The rise of streaming has been more pronounced for music tracks/ albums and feature films than for other cultural content.

The rise of streaming has been documented for audiovisual (film, TV, music) content. However, for music, in particular, existing data often show a concurrent trend: the initial popularity, then decline, of downloading as streaming became more popular (Entertainment Retailers Association 2017; BPI 2018). We use the OCI survey data to corroborate these market trends, but in addition, show how the streaming and downloading trends differ by different types of creative outputs.<sup>2</sup>

As [Fig. 1](#) shows, from 2013 to 2018, digital streaming eclipsed that of downloading for all audiovisual (music, film, TV) cultural outputs. Specifically, by 2018, streaming was approximately three times more popular than downloading for music videos, TV programmes, feature films and short video clips. For video games, downloading was roughly equally as popular as streaming/accessing, never having more than a one percentage point difference across the five survey waves. For e-books, the opposite was

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<sup>2</sup> For these surveys, “stream/access” was explained to respondents as “viewed, listened to or played content directly through the internet without downloading a copy” whereas “downloading” was explained as having “transferred a copy of the file to [their] device”.

true — downloading was consistently more popular than accessing online (without downloading) but this had narrowed to a one percentage point difference by 2018.

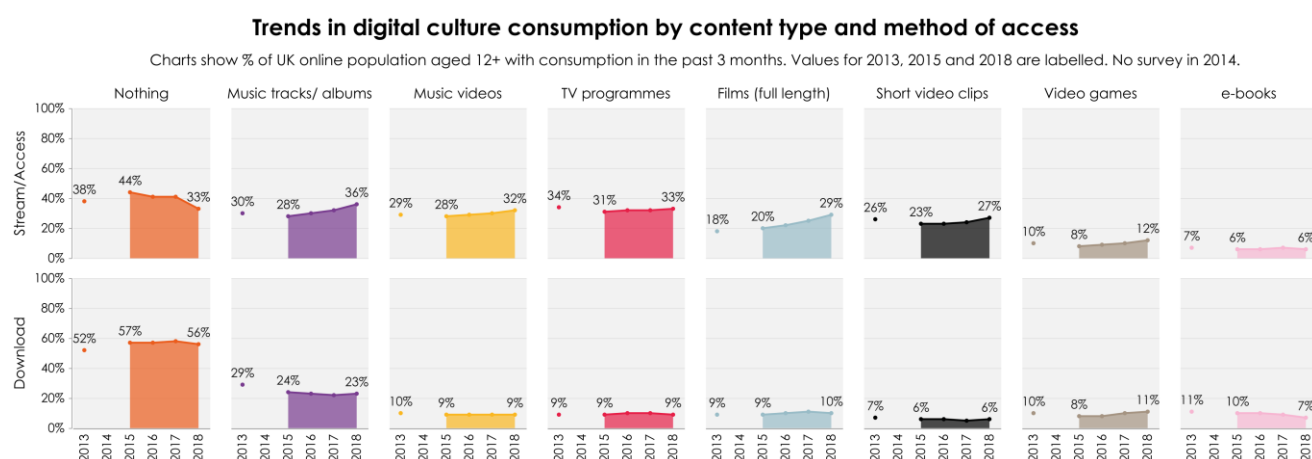


Figure 1: Trends in digital culture consumption by content type and method of access

Taken together, [Fig. 1](#) shows that from 2013 to 2018, the rise of streaming was in fact more localised towards music (in particular, with the rate of increase higher for the streaming of music tracks/ albums than the streaming of music videos) and feature films (with the streaming of TV programmes remaining fairly flat over the five survey waves).

The rise in streaming adoption for music tracks/ albums and feature films was clearly the most evident, rising by eight and nine percentage points respectively between 2015 and 2018. The two exceed any rise in streaming of all other cultural outputs, which at most recorded a four percentage point rise in adoption of streaming (or no rise at all) during the same period.



## Comparisons to trends observed in revenue data

Next, we interpreted the OCI survey findings alongside revenue figures from the Entertainment Retailers Association (ERA), which aggregates UK revenue data from sources including the Official Charts Company, GfK, Futuresource Consulting, GSD and IHS, to analyse the music, video entertainment, and video games industries.

In the music industry, within the last five years, streaming has grown and solidified its position as the single largest source of revenue for the music industry. In the US, streaming overtook both physical sales and digital downloads music revenue for the first time in 2015 ([Friedlander 2015](#)). In the UK, revenue from streaming overtook that from digital downloads<sup>3</sup> in 2016 and later also overtook revenue from physical/analogue sales in 2017 ([Entertainment Retailers Association 2017](#); [Entertainment Retailers Association 2018](#)). The OCI surveys provide further evidence of the rise in streaming and fall in downloading of music: from 2013 to 2018, streaming of music tracks/ albums increased from 30% (of the online population aged 12+) to 36%, whereas downloading decreased from 29% to 23%.

In the video entertainment industry, digital sales overtook physical sales (retail and rental combined)<sup>4</sup> in the UK for the first time in 2016 ([Entertainment Retailers Association 2017](#)). The OCI survey data corroborates the increased popularity of streaming videos, with streaming of feature films increasing from 18% (of the online population aged 12+) in 2013 to 29% in 2018. In 2018, film streaming almost caught up with the streaming of TV programmes, which has remained fairly stable at around 33% during the five year period.

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<sup>3</sup> For revenue figures of the music industry, the Entertainment Retailers Association (ERA) estimated their own streaming figures, and relied on figures from the Official Charts Company for physical and digital sales.

<sup>4</sup> For revenue figures of the video industry, the ERA relied on figures from the Official Charts Company for physical sales, and IHS estimates ("including EST, TV-VoD, web-based VoD and sVoD services") for digital sales.

With at least two new entrants impacting the UK film/TV streaming market (Britbox and Disney+), and the existing formats of film and TV undergoing change, future surveys can be used to monitor if these trends persist.<sup>5</sup>

In the games industry in the UK, digital sales have long surpassed physical sales according to the Entertainment Retailers Association. While the OCI surveys showed roughly similar rates of “downloading” and “streaming/ accessing video games (excluding patches and upgrades)” across the five years, future surveys with more specific questions may be able to evidence the rise of more recent innovations around cloud-based live streaming of video games.<sup>6</sup>

Overall, we use the OCI survey data to help evidence and unpack the rise of streaming in the entertainment industries, enriching the evidence base of changing consumer habits across specific types of cultural content.

Although digital streaming has been gaining popularity, those who are older and less well-off are less likely to consume culture this way.

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<sup>5</sup> Britbox launched in the UK in November 2019 and at the time of writing, Disney+ is set to launch in the UK in March 2020.

<sup>6</sup> In 2018, the OCI surveys suggested that 15% of the 12+ UK online population have consumed video games digitally in the past three months. This makes digital gaming much less popular than, e.g. digital music consumption, where 37% of the same population base had done so. In comparison, the Taking Part survey in 2017/18 found a higher rate of consumption, with “one in four adults” saying they played video or computer games in their free time, though this does include offline gaming (DCMS 2018; Borowiecki & Bakhshi 2017).

### The socio-demographics of non-streamers

Perhaps surprisingly, more respondents said that they had *not* consumed any content digitally in the past three months than those that said they had. This is consistently found across five waves of surveys from 2013 to 2018, and is obtained from respondents explicitly choosing “none” when asked about their streaming/accessing, downloading, and sharing habits in the past three months. In fact, in 2018, non-consumers outnumbered consumers of all digital content types except for music streaming.

We analysed this finding by demographics, and found that those who are older and of working class background are more likely to say they consumed nothing digitally in the past three months. As [Fig. 2](#) shows, 60% of respondents above the age of 55, even with Internet access, said they had streamed/ accessed nothing in the past three months in 2018. In comparison, only 12% of those aged 16-24 said they were digital non-streamers. Besides age, social class also plays a factor in non-streaming: 36% of middle class (ABC1) respondents with Internet access reported to have streamed nothing in the past three months, whereas for working class (C2DE) respondents that proportion was 42%.

## Who are the non-streamers?

Respondents who streamed/ accessed nothing digitally in the past 3 months (2018)

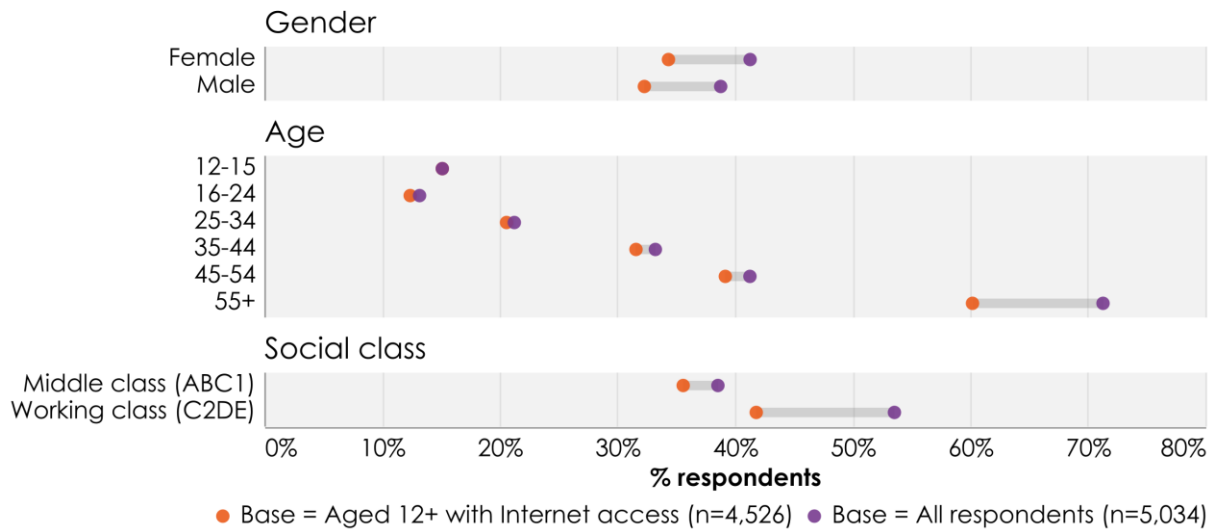


Figure 2: Demographics of non-streamers in 2018

Internet access only partially explains why some socio-demographic groups do not engage in digital streaming — [Fig. 2](#) shows that clear differences (for age and social class) are still observed when Internet access is accounted for. Similar to reasons for Internet non-use, reasons for not consuming culture via streaming may be complex.<sup>7</sup> Future surveys could usefully explore why some people do not consume culture digitally, if they consume culture offline, and reasons that make them hesitant in embracing digital consumption if they are able to. Companies that are successful in figuring out the reasons for non-consumption may be able to tap into large potential consumer bases.

More importantly, as digital consumption gets more ubiquitous, market analysts and policymakers must not forget Internet non-users, as well as Internet users who simply may

<sup>7</sup> Reasons for Internet non-use are complex: research based on the Oxford Internet Survey found that most non-users are non-users by choice – they are not interested in going online. They also found higher proportions of non-users below the median income (£28,400/year in 2018) as well as disproportionate percentages of non-users among less-educated groups. Targeted advertising and privacy concerns also contribute to non-use ([Dutton et al. 2013](#); [Blank et al. 2019](#)).

not participate in digital modes of culture consumption such as streaming. The evidence so far does not support a narrative that everyone will eventually become a digital streamer. These findings need to be set into the wider context of cultural participation ([Compendium of Cultural Policies and Trends in Europe 1998-2020](#)).

### The socio-demographics of digital consumers of culture

We investigated the demographic breakdown of digital consumers of feature films, TV programmes, video games, e-books, music tracks/ albums, and music videos. Digital consumption was defined as having streamed, accessed, or downloaded the type of cultural output in the past three months.<sup>8</sup>

[Fig. 3](#) to [Fig. 5](#) show the socio-demographic breakdown, with each wave from 2013 to 2018 shown in the same colour (so the change over the five waves can be visually tracked from yellow to purple).

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<sup>8</sup> While the surveys also included “sharing” as a mode of consumption, the questions are phrased more to address file sharing behaviours. As the rates are much lower than streaming and downloading, this is not included in our definition of digital consumption and would not impact the demographic findings.

### How the demographics of digital consumers of film/TV are changing

Digital consumption = respondents saying they streamed/ accessed/ downloaded specified media in the past 3 months

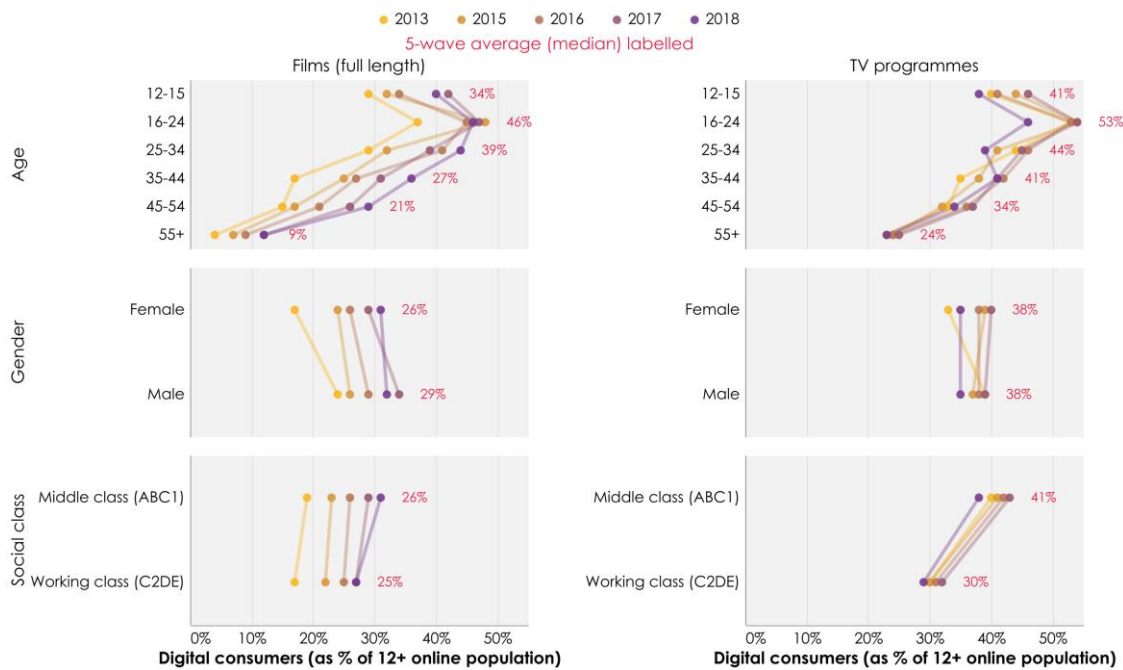


Figure 3: Demographic changes in digital consumption of film/TV

### How the demographics of digital consumers of games & e-books are changing

Digital consumption = respondents saying they streamed/ accessed/ downloaded specified media in the past 3 months



Figure 4: Demographic changes in digital consumption of games and e-books

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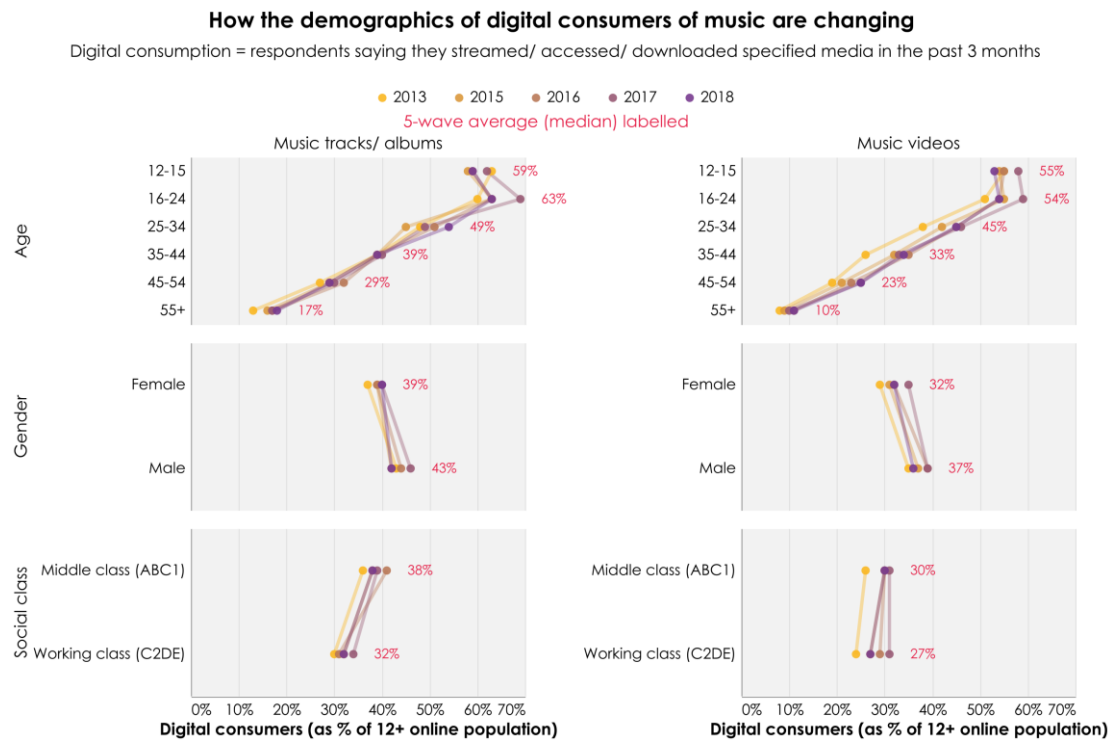


Figure 5: Demographic changes in digital consumption of music

We see that digital consumption of all content types (except e-books) is strongly associated with age. People aged 16-24 tend to be the top consumers, followed by 25-34, 35-44, etc. Those aged 55+ report lowest digital consumption rates across all creative outputs, except for e-books, where this age group is second-to-last. Age has more generally a much weaker association with digital consumption for e-books. The only other exception to the rule that 16-24 year olds are the top consumers is for video games, where instead the 12-15 age group instead is the highest consuming group across all five waves.

Controlling for other demographics, across all five years of surveys, men are significantly more likely than women to digitally consume video games (and, to a smaller extent, music

tracks or albums), and the middle class is significantly more likely than the working class to digitally consume TV programmes, music tracks or albums, and books.<sup>9</sup>

The rise in adoption of digital consumption is localised among some demographic groups. For example, while [Fig. 1](#) shows an overall increase in streaming and downloading video games from 2013 to 2018, the demographic breakdowns in [Fig. 3](#) to [Fig. 5](#) show that this increase in digital consumption is primarily concentrated among those who are relatively younger (under 45) and male, with social class having little effect on whether someone digitally consumes video games.

The rate of uptake of digital consumption also differs by demographics. For example, for feature films, those aged 16-24 (the top consumption group) reached at least 45% uptake by 2015 and have hovered around that rate since, whereas other age groups, starting at lower bases, show faster rates of increase. For the 45-54 age group, those who had streamed or downloaded feature films almost doubled across the five waves (from 15% in 2013 to 29% in 2018), and those aged 55+ actually tripled across the same period (from 4% to 12%), though their consumption rates still remain lower than that of younger people.

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<sup>9</sup> For example, in 2013, people from a working class background were 55% less likely than those from a middle class background to have downloaded or streamed TV programmes in the last three months, controlling for other demographics like age and gender. The size of the social class disparity gradually decreased over the years but significant class differences still persists. In 2018, the odds ratio improved to 0.68 (or 32% less likely). These findings are statistically significant at the 95% level in all five years of surveys from 2013 to 2018, with no survey in 2014.

More details are available upon request and will be available in a forthcoming paper, submitted to the 2020 Economics of Copyright in the Cultural and Creative Industries workshop at CIPPM, Bournemouth University (eds. C. Handke and R. Towse). Dependent variables for the logistic regressions include if the respondent has downloaded or streamed/ accessed different cultural outputs 1) ever, 2) in the past three months, 3) at least once a week, and 4) via any free illegal sites.

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### The socio-demographics of quarterly spending

Fig. 6 shows the average (mean) spending of 2018 respondents on various cultural outputs, offline or online, over three months. The right panel shows digital spending only. The base used is the entire population of the survey, including people who do not consume anything digitally, in line with previous IPO reports ([Kantar 2018](#)).

We find that age is associated with average spending on culture (offline or online). Except for books, respondents aged 55+ report the lowest spending (online or offline) across all cultural outputs. In contrast, while they are not the top digital consumer group, people aged 25-34 actually report the highest quarterly spend for TV (£14.6), games (£23.9) and film (£29.6) when offline spending is included. The top-spending age groups for music are those aged 16-24 (at £44.6 over three months). Unlike the propensity to consume culture digitally, spending does not appear to have a straightforward association with age — 16-24 spend more than 12-15 year old, however, spending then declines across all cultural outputs after the age band of 25-34 (except for spending on music, which declines after the 35-44 age band, and spending on books, which is not correlated with age at all). This has implications around engaging audiences, especially those aged 55+ potentially with higher incomes but (currently) lower spending on culture.

The biggest difference on spending by gender is for video games: women report spending £8.50 over three months on video games, while men report spending more than double (£17.20). Unsurprisingly, social class is a clear predictor of spending, with those from middle class (ABC1) backgrounds outspending those from working class (C2DE) backgrounds across all cultural outputs. The largest difference here is for music, where middle class

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respondents reportedly spend nearly double (£32.4) that of working class respondents (£16.7) over three months.

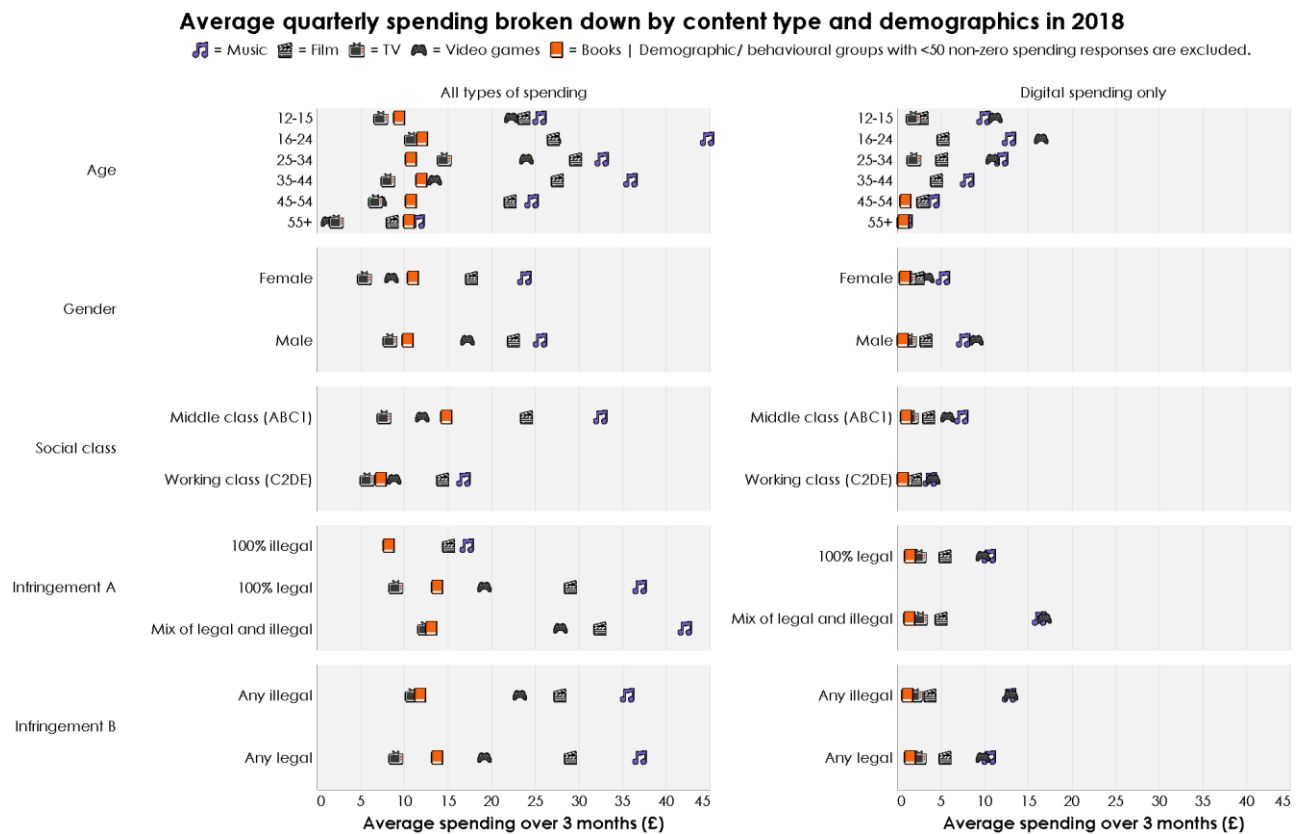


Figure 6: Average quarterly spending broken down by content type and demographics in 2018

## Brand recognition of cultural platforms

### Awareness of legal options and copyright infringement

While previous research on the OCI surveys has extensively covered copyright infringement, here we propose an additional reason that can explain infringing behaviours: relatively low brand recognition of legal options.

A recent study conducted by the Institute of Information Law (IViR) at the University of Amsterdam, for example, found that online piracy is declining globally, and concluded that the main driver for this decline is the increasing availability of affordable legal content ([Quintais & Poort 2018](#)). However, the OCI surveys show that while illegal consumption of music and film have generally decreased from 2015 to 2018<sup>10</sup>, copyright infringement in TV content has in contrast increased year on year since 2015 ([Kantar 2018](#)). To unpack further, we visualise how awareness of specific consumption platforms breaks down among those who streamed/downloaded TV via 100% legal means, 100% illegal means, and a mix of both. (These are categories defined by previous reports.) We find that 100% illegal (online TV) consumers consistently report lower awareness of legal platforms.<sup>11</sup>

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<sup>10</sup> Save for a small jump between 2017 and 2018, from 18% to 19% for illegal consumption of music.

<sup>11</sup> We run logistic regressions to analyse how awareness of specific digital content consumption platforms is associated with age, gender, social class, infringement behaviour, and consumption in the last three months. We included platforms for TV programmes, film, music tracks or albums, books, software, and computer games. This is only performed for the 2018 survey wave. The finding that '100% illegal' consumers have significantly lower awareness of legal platforms for that content type (and conversely higher awareness of illegal platforms), holding other variables constant, is broadly observed across different online cultural goods.

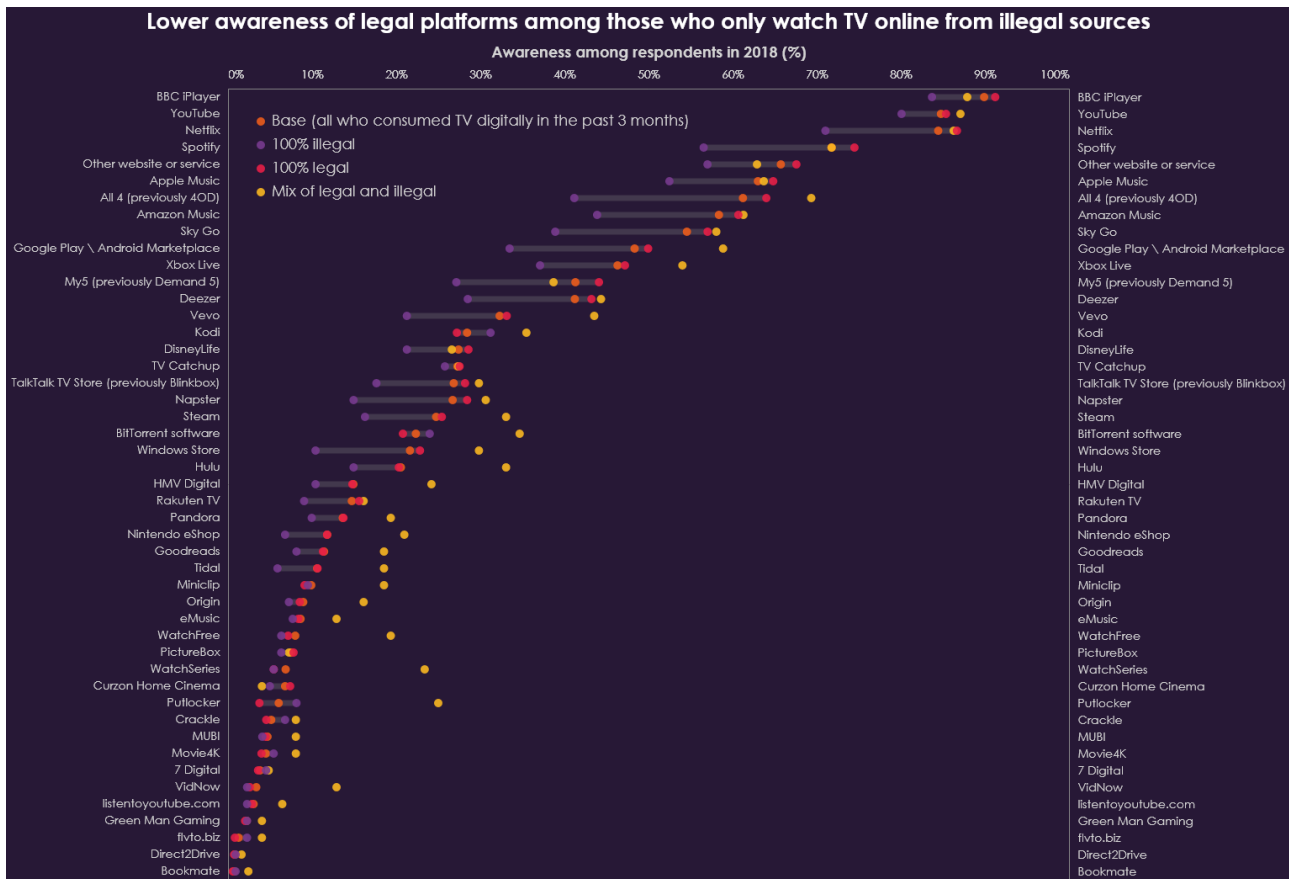


Figure 7: Lower awareness of legal platforms among those who only watch TV online from illegal sources

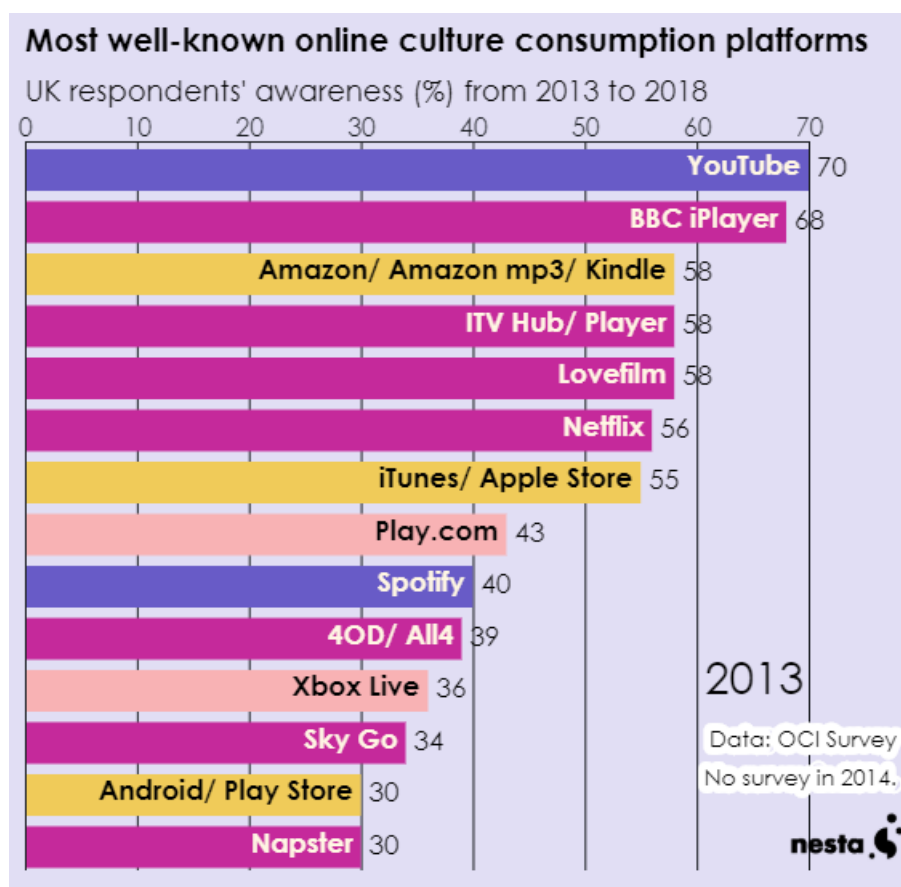
Questions on unlawful behaviour naturally rely on survey respondents' honesty, which affects accuracy. However, the survey designers "[had] gone to significant lengths to ensure that honesty was encouraged [...] by using indirect lines of questioning when calculating unlawful activity" (Kantar 2018). In the OCI survey, respondents do not self-select into "100% legal/ illegal/ a mix of both". Rather, they are presented with a list of both legal and illegal tools. The finding here therefore does raise relevant considerations for regulation.

Fig. 7 offers two new relevant insights when crafting policy solutions around platform regulation. First, the lack of awareness of legal platforms appears to be a factor in online infringement among those who only stream TV illegally. This broadly is in line with surveys that have found a strong correlation between “improvements in the availability from legal channels and changes in personal preferences that affect legal and illegal consumption” (Quintais & Poort 2018; Watson et al. 2015). Indeed, the availability of affordable legal options can only influence people's behaviours if consumers are aware of them in the first place.

Secondly, the brand recognition of some digital consumption platforms can be significantly improved. In fact, according to the survey, in 2018, among a list of over 70 legal platforms, only 8 were recognised by more than 50% of the user population (people who had streamed TV in the past three months). As more TV streaming platforms enter the UK market, marketing and pricing will play an important role in influencing consumer behaviour. Future research may investigate if general awareness of all tools increase, or whether the incumbent players consolidate their advantage in brand recognition.

### Most well-known cultural consumption platforms

Fig. 8 shows a bar chart 'race' (animated version available on the website) of the most well-known cultural consumption platforms using the five OCI survey waves. Awareness is measured by the percentage of OCI survey respondents who say they are aware of the platform.



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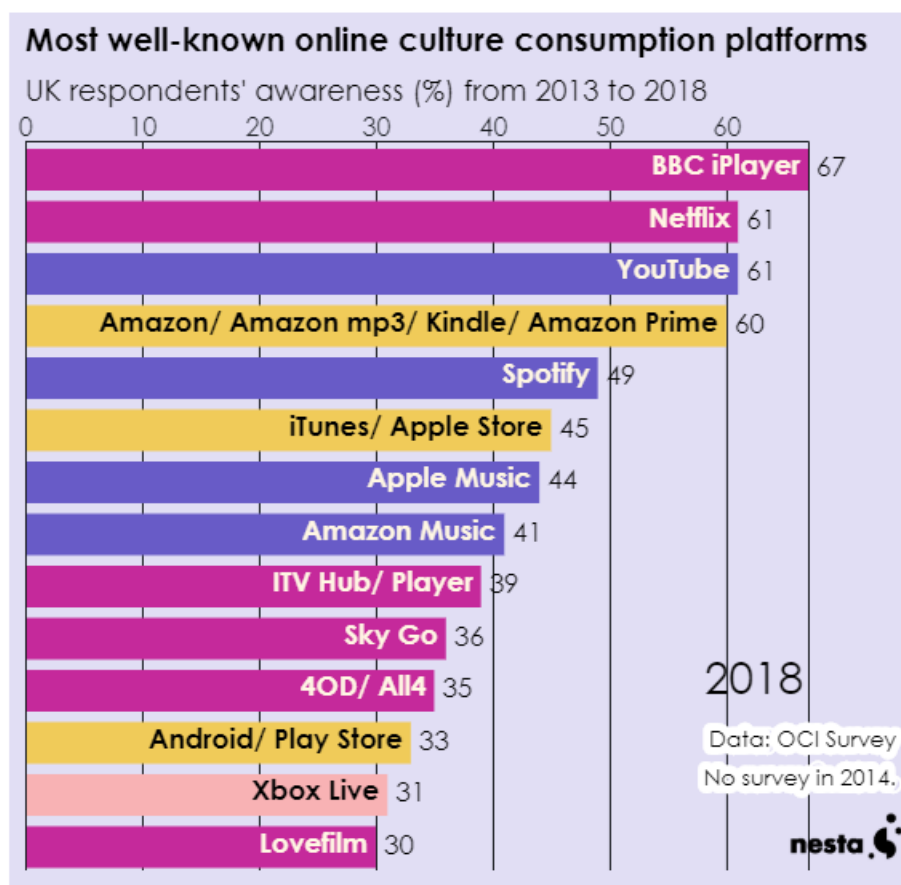


Figure 8: Most well-known online culture consumption platforms (2013-2018)

We find that platforms with the highest brand recognition are concentrated among a handful of audiovisual streaming (film, TV, music) platforms: YouTube, Netflix, and BBC iPlayer are consistently at the top. UK broadcaster video-on-demand (VOD) services generally have high brand recognition: even though ITV Hub/ Player, Demand 5/ My5, and 4OD/ All4 all recorded drops in brand recognition from 2013 to 2018, which may be explained by re-branding, they remain high in population awareness, with at least one in five people in the UK saying they are aware of the platform in 2018 (and in the case of ITV Hub, almost 40%).

However, awareness of gaming platforms is comparatively lower: in 2013, Xbox Live (36%) and play.com (43%) were in the top 15, but by 2018, only Xbox Live remained among the most well-known platforms (31%). Two online gaming sites saw large drops in awareness of over 40% (play.com went from 43% in 2013 to 25% in 2018, and miniclip went from 10% to 6%).

Declines in population awareness can often be explained by change in consumption modes or entrance of new services from well-known brands. For example, Lovefilm, a former UK-based DVD-by-mail company, saw a steady decline in awareness as digital consumption became the norm (58% in 2013 and 30% in 2018). Well-known music streaming platforms doubled from two to four during this period: in 2013, Spotify and YouTube were the two music streaming platforms with the highest brand recognition. By 2018, they were joined by newer entrants Apple Music and Amazon Music (44% and 41% respectively). The new entrants' rapid rise in brand awareness coincides with a drop in smaller competitors (e.g. We7, Zune, HMV Digital, last.fm, eMusic all recorded decreases in awareness by over 30% between 2013 and 2017 or 2018<sup>12</sup>). Awareness of the former file-sharing site Napster also declined from 31% in 2013 to 17% in 2018, possibly explained by the growing availability of authorised services.

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<sup>12</sup> Depending on when the questions were taken out of the survey.



## Conclusion

While there is a strong evidence base on the consumption of cultural goods and services, with insights on the demographics, participation rates and the complexity of demand ([Towse 2019](#)), much evidence still relates to the analogue era. For digital culture, policy still has a tendency to speak of consumption in a blanket manner (cf. [Kretschmer et al. 1999](#)). In this report, we provide evidence that the likelihood of digital consumption (as well as digital spending) vary strongly with age for film/TV, games, and music. Depending on the type of cultural good or service, gender and social class also play a role in adoption. Indeed, age and social class seemingly affect if people altogether abstain from digital streaming at all.

Current non-streamers, a sizable portion of the population, represent significant potential value for the creative industries. But we must also be mindful of inclusivity and people's different affinities to digital engagement with culture, as we anticipate the next wave of innovation in cultural production and consumption.

## Acknowledgements

Within the AHRC Creative Industries Policy and Evidence Centre (grant: AH/S001298/1), consortium partner CREATE - the UK Copyright and Creative Economy Centre at the University of Glasgow - has collaborated with the UK Intellectual Property Office and Nesta to unlock the value of an important annual survey of online consumer behaviour.

The Online Copyright Infringement (OCI) tracker was originally conceived as a standard measure to evaluate trends in online copyright infringement. As part of the current initiative, Nesta and CREATE held a workshop in June 2019 ([OMeBa 2019](#)), which highlighted a shared interest across government, industry and academia to better understand digital consumption behaviours by different demographic groups. This report is a reflection of this consultation.

We hope that the initiative also demonstrates more generally the derivative potential that can be generated through a process of open data development (creating a consistent longitudinal data set, shared openly, with a tool that enables users to extract insights from the data).

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