Research brief July 2017

OTT Services
Colour to the Internet

Dr. René Arnold
Dr. Anna Schneider

HOCHSCHULE FRESENIUS
UNIVERSITY OF APPLIED SCIENCES
wik Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste

Imprint

Authors of this study:

Dr. René Arnold
Head of Department Markets and Perspectives
Contact:
r.arnold@wik.org
+49 (0)2224 92 25 25

Dr. Anna Schneider
Lecturer in Business Psychology
Contact:
anna.schneider@hs-fresenius.de
+49 (0)221 97 31 99 715

Contact details of the scientific institutes:

WIK Wissenschaftliches Institut für
Infrastruktur und Kommunikationsdienste GmbH
Rhöndorfer Str. 68
53604 Bad Honnef, Germany
Tel.: +49 2224 9225-0
Fax: +49 2224 9225-63
eMail: info(at)wik.org
www.wik.org

General Manager and Director: Dr. Iris Henseler-Unger
Chairman of the Supervisory Board: Winfried Ulmen
Registered: Amtsgericht Siegburg, HRB 7225
Tax No.: 222/5751/0722
VAT No.: DE 123 383 795

Hochschule Fresenius – Fachbereich Wirtschaft & Medien
Business School · Media School · Psychology School
Im Mediapark 4c
50670 Köln, Germany
http://www.hs-fresenius.de

General Manager: Prof. Dr. Marcus Pradel (Chairman),
Prof. Dr. Tobias Engelsleben, Prof. Dr. Stefan Wiedmann
Registered: Amtsgericht Wiesbaden HRB 19044

Pictures:
Alex Blajan, Alice Moore, Anna Demianenko, Crew, Freestocks, Kaboompics,
Scott Webb, Tina Rataj Berard, Rawpixel, Roman Kraft, Matthew Kane, Freemagebank

Foreword

Innovative digital services add value for consumers

Almost no industry can withdraw from digitisation today. Indeed, a fundamental structural transformation of our economy and society is happening. The present study focuses on communications and audio-visual services. Both types of services are particularly prone to digitisation with over-the-top services taking up increasing market shares.

Applications like WhatsApp, iMessage or LINE offer various completely new functions compared to SMS and traditional telephony. In fact, consumers often use these apps to perform almost all actions typically done on the internet using more traditional websites. With WhatsApp and the like becoming more similar to the full internet experience, their economic impact is likely to converge too. WIK estimates that for each 10% increase in application use, global GDP will increase by US$1 billion a day.

Music and video streaming give consumers access to virtually endless content libraries at the click of a button. As consumers turn away from advertising-funded streaming options to subscription-based ones, musicians and others in the value chain can profit from increasing revenue. Also, there is a trend to contract local actors and producers to create local content.

Fast broadband everywhere is absolutely necessary for Germany to reap the full potential of the digital transformation. Smart actions by policy makers to manage the digital transformation will, however, be just as important for sustainable economic success. Innovative services ought not be impeded by unnecessary legal or regulatory intervention. When in doubt, policy makers should reduce the level of regulation to achieve a level playing field for traditional and new actors.

Dr. Iris Henseler-Unger

1 billion US$

additional GDP for every 10% increase in use of WhatsApp & Co. globally

>2 thirds

of 18- to 24-year-olds rarely watch linear TV any more

3 million

more Spotify users in Germany in 2016 than in 2015

1/4

of German smartphone and video-on-demand users watches more than 10 hours of video on their smartphones weekly

5 out of 10

Germans send more than 80% of their mobile messages using applications like WhatsApp

Introduction

Over-the-Top (OTT) services use the public internet to create added value for consumers. A prominent example of these services are applications that enable rich interactions between consumers by sending pictures and videos, facilitating group chats and offering other innovative functions such as mobile payment or ordering a taxi. Also, consumers can use OTT services to stream their favourite media anywhere and anytime.[1]

Surprisingly, there are limited consistent insights across two or more years for market development of OTT services in Germany. Consequently, the present study extends two studies[2] published by WIK and Fresenius University of Applied Sciences in 2016 with new data. To achieve comparability over time, this study revolves around the same research questions as the previous studies. Additionally, the study provides consumer insights to inform current public debate about algorithms and data privacy.

To gain a comprehensive understanding of consumer behaviour, the present study uses a mixed-methods approach. We surveyed a representative sample of more than 1,000 German consumers. To aid interpretation of the quantitative results, we also conducted 20 semi-structured interviews with consumers in Germany.

1 For more information see also: Arnold, René, Christian Hildebrandt, & Martin Waldburger. 2016. "Der Markt für Over-The-Top Dienste in Deutschland.“ WIK-Diskussionsbeitrag Nr. 409, Bad Honnef.
2 Arnold, René, & Anna Schneider. 2016. OTT Services and Consumers’ Communication Behaviour in Germany. Bad Honnef/Köln: WIK/HS-Fresenius; Arnold, René, & Anna Schneider. 2016. OTT Streaming Services in Germany. Bad Honnef/Köln: WIK/HS-Fresenius.

TV is not broken yet

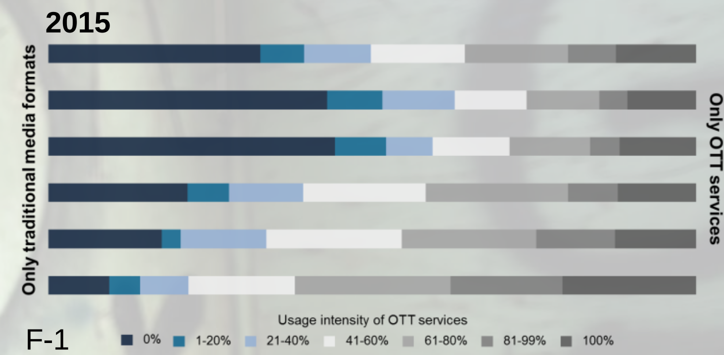
More than

two-thirds

of 18- to 24-year-olds rarely watch linear TV any more

Some suggest that the final nail is ready to be hammered into linear TV’s coffin. Our data from 2015 and 2016 may show an increase in use of streaming services; however, it is also obvious that linear TV is not dead just yet. On the one hand, for those aged 55 and over as well as the youngest age group, the share of consumers who solely rely on linear TV actually increased from 2015 to 2016. Apparently, some consumers who occasionally tried streaming returned to the experience that they are used to.

On the other hand, the share of consumers who watch all their TV content online has sharply increased in the same period. The strongest increase is found for 25- to 34-year-olds. In this age group, 22% only watch TV online. That is almost the same figure as 18- to 24-year-olds, the group with the highest share of online-only TV consumers in 2015 (21%). In 2016, this figure increased to 28%.



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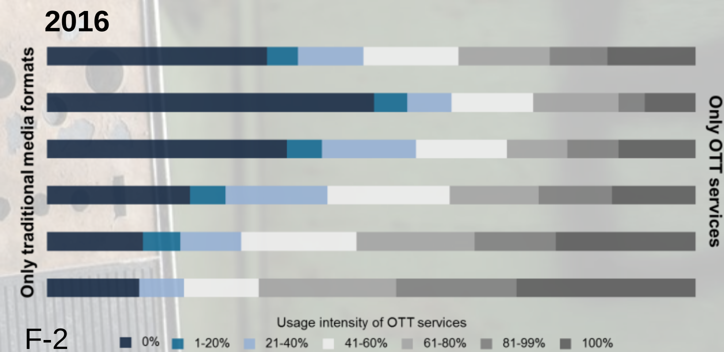

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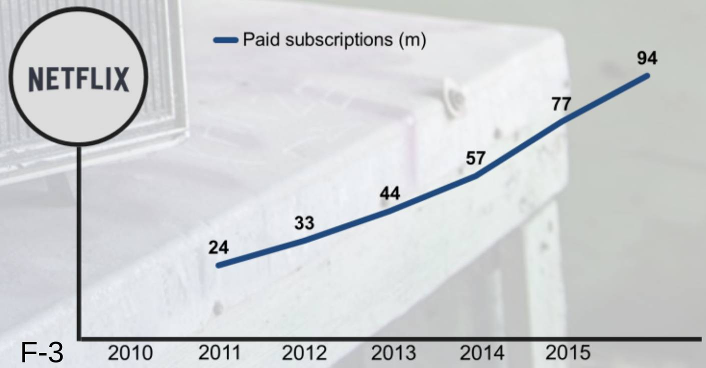

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F-1: Representative survey n > 1,000 in 2015; WIK calculations.
F-2: Representative survey n > 1,000 in 2016; WIK calculations.
F-3: Trade publications and official communications by Netflix.

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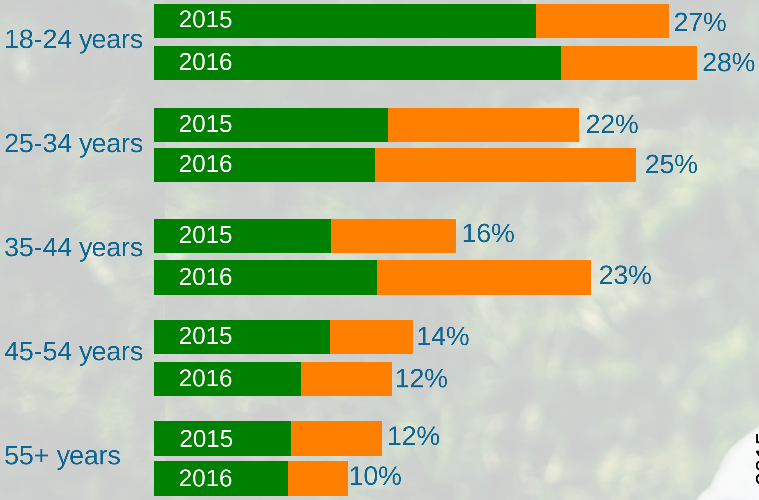

Share of video streaming users by age groups in Germany

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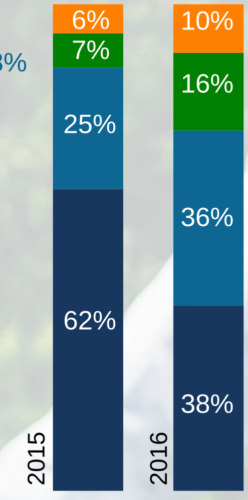
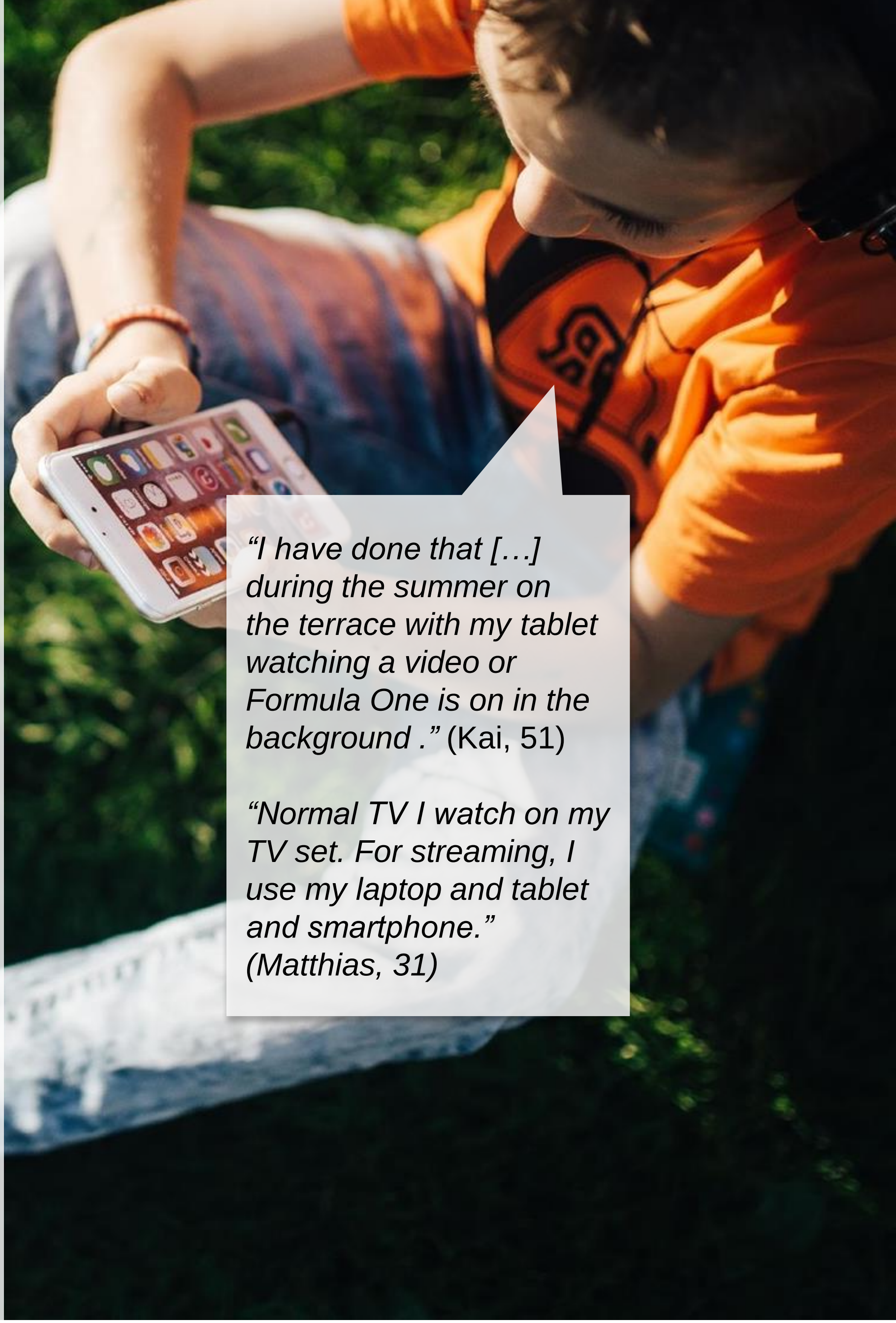


Share of video streaming use on smartphones

- Less than 1 hour use per week
- 1 to 10 hours use per week
- 11 to 20 hours use per week
- 21+ hours use per week

The identified increase in video-streaming users in Germany is also met by changes in viewing habits and usage intensity of video streaming. This is most obvious with 35- to 44-year-olds who significantly increased their time watching TV content online from 2015 to 2016. In sum, almost a quarter of consumers in this age group watches 11 or more hours of video on the internet weekly.

Within this, smartphones play an increasingly important role as a viewing device. In 2015, the most common usage pattern was to watch less than one hour per week on a smartphone. In 2016, only 38% of those who watch videos on smartphones limited their viewing to less than one hour per week. Around 10% of Germans watching videos on their smartphones use a it 21 or more hours per week to watch online videos.



"I have done that […] during the summer on the terrace with my tablet watching a video or Formula One is on in the background ." (Kai, 51)

"Normal TV I watch on my TV set. For streaming, I use my laptop and tablet and smartphone." (Matthias, 31)

F-4: Representative surveys n > 1,000 in 2015 and 2016; WIK calculations; reference: video on demand users in Germany.
F-5: Representative surveys n > 1,000 in 2015 and 2016; WIK calculations; reference: video on demand / smartphone users in Germany.

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Women are the most loyal viewers

Share of users in Germany		Share of regular users in %[1]	
Das Erste Mediathek 10.3 million	74%	73%	71%
Amazon Instant Video 9.7 million	71%	74%	76%
YouTube 8.9 million	66%	73%	82%
Netflix 4.9 million	70%	79%	88%
Maxdome 2.4 million	47%	51%	62%

Women use **2** streaming services on average in parallel

Men typically use **3**

"Sometimes I watch series on my laptop. Like some weeks ago, I did that all the time. I watch series constantly." (Anne, 19)

"So, watching Game of Thrones four days in a row – no problem." (Cathrine, 38)

"When I watch a [video] stream, I have time […] But it is really about not being tied to any specific schedule. I can do what I want whenever I want." (Catrin, 34)

Representative survey n > 1,000 in 2016; WIK calculations; reference: video on demand users in Germany.
1 Number of users (weekly)/number of users (last 30 days) in percent.

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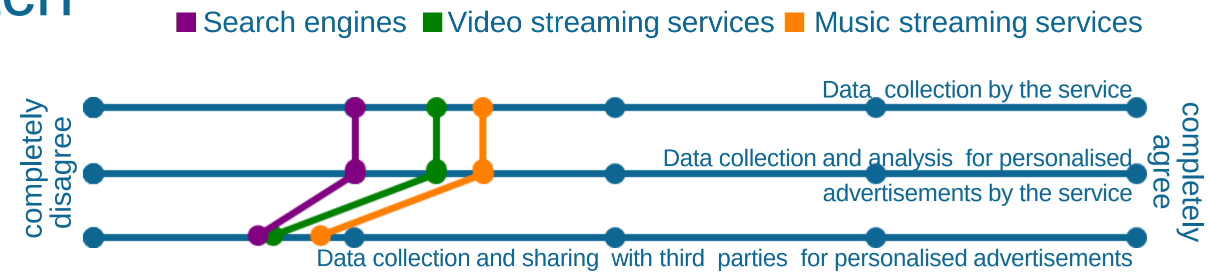
Finding the right match ignites the spark with consumers



Germans tend to be more sensitive about data privacy than consumers in other countries. Interestingly, across all countries, actual consumer behaviour does not reflect their stated privacy concerns.[1] Asked about their attitudes towards data collection, analysis and sharing by various OTT services with the aim of personalising advertisements, consumers were sceptical of these practices in general. In fact, consumers by and large disagree with these practices regardless of the service they use.

More detailed analysis reveals statistically significant differences for music and video streaming compared to using search engines. Consumers are more willing to have their data collected and analysed by the streaming services than by search engines. The interviews illustrate that consumers recognise an added value with streaming services' personalised recommendations which may explain their increased willingness to accept data collection with these services. Having these services share their data is, however, similarly unacceptable for consumers as with other services.

"If the selection fits 100% – well, that's great. I still have the chance to say that I don't want this and just switch the whole thing off." (Mia, 52)

"Data collection for advertisements relating to stuff that I bought or recommending videos that I might like based on similar users is all right with me; anything beyond that, like profiling, I find quite a lot more dangerous." (Hannes, 23)

"Often I simply lack ideas and drive. If that can be done by the machine […] and I really like that, I have sort of a set of recommendations and make my personal choice based on them. That compensates for my lack of ideas." (Matthias, 31)

Representative survey n > 1,000 in 2016; WIK calculations; reference: users of OTT services in Germany.

1 Arnold, René, Martin Waldburger, & Annette Hillebrand. 2015. Personal Data and Privacy – A Study for Ofcom. Bad Honnef: WIK-Consult.

Music streaming more popular

Music streaming continues its march through the age groups. The greatest increase in regular music-streaming users can be found in the 25- to 34-year-old group. For 14% of them, online music streaming is the only source they use to listen to music.

Spotify is very successful at gaining new paying subscribers. From 2015 to 2016 alone, they doubled the share of paying subscribers. Today, every second Spotify user has a premium subscription.

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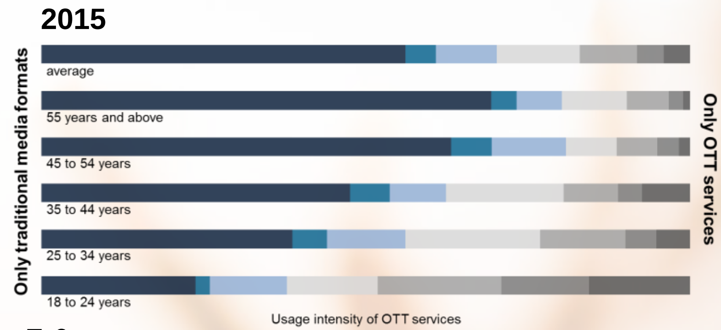

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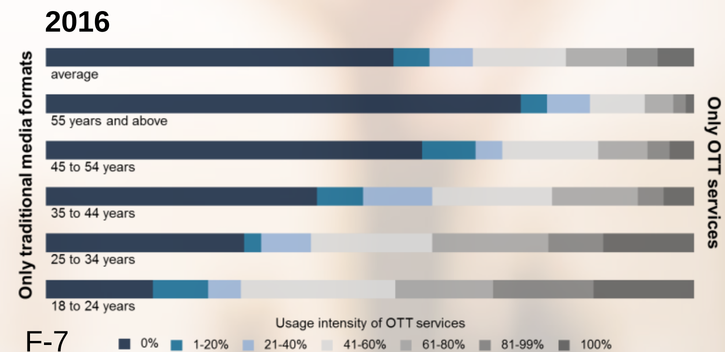

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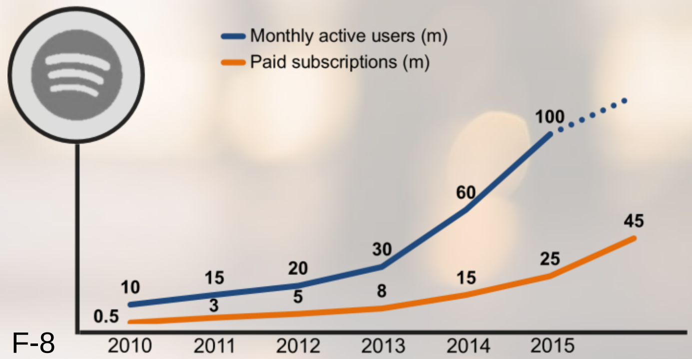

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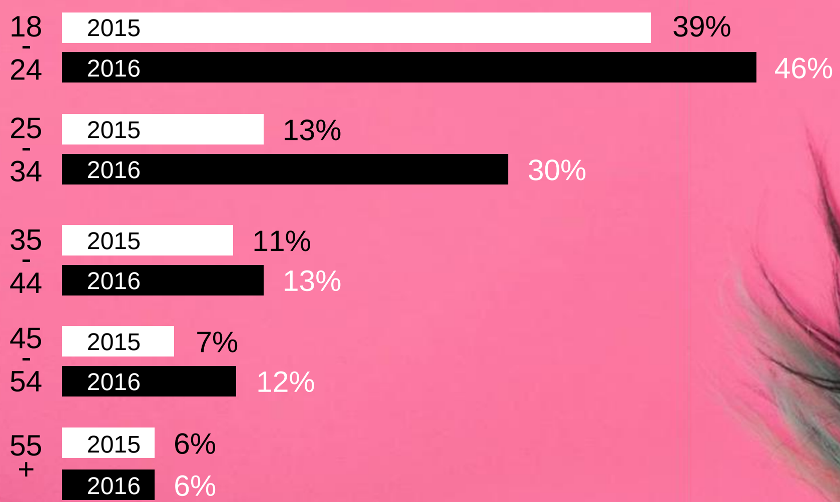
F-6: Representative survey n > 1,000 in 2015; WIK calculations.
F-7: Representative survey n > 1,000 in 2016; WIK calculations.
F-8: Trade publications and official communications by Spotify.

Spotify gains 3 million new users in 2016

In total 10 million Germans use the service



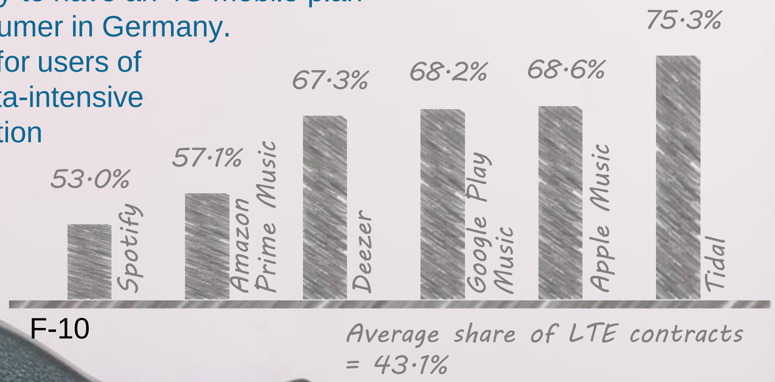
F-9: Share of Spotify users by age in Germany

Spotify has increased its user base, particularly with 25- to 34-year-olds. Competitors like Apple Music and Amazon Prime Music cannot quite keep up with this rapid growth: in Germany, Apple Music has increased its user base from 1.9 to 2.6 million, and Amazon has remained constant at around 7 million users.

F-9: Representative surveys n > 1,000 in 2015 and 2016; WIK calculations.

Music is always on

The guitar can stay at home. Music streaming and mobile broadband mean favourite songs can be played on smartphones, tablets or other mobile devices anywhere and anytime. Quick mobile broadband is essential for this to be a fun experience. Indeed, users of streaming services are more likely to have an 4G mobile plan than the average consumer in Germany. This is especially true for users of Tidal, a particularly data-intensive service for high-resolution music files.



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F-10: Representative survey n > 1,000 in 2016; WIK calculations.

More consumers are willing to pay for streaming services

Downloading music and films illegally is a thing of the past for many. As the figures shown on the preceding pages illustrate, legal streaming services are becoming more and more popular. While many video-streaming services count on subscription-only payment models, music streaming can be used for free as long as users listen to advertisements in-between songs.

However, consumers' willingness to accept their favourite songs being interrupted appears to be dwindling. The share of consumers who are willing to pay for music streaming increased from 2015 to 2016 by almost a third.

That's good news for Spotify and others. Also, this finding underscores Tim Cook's strategic decision not to offer a freemium version of Apple Music. Notably, 15% of German Apple users have opted for a subscription to Apple Music.
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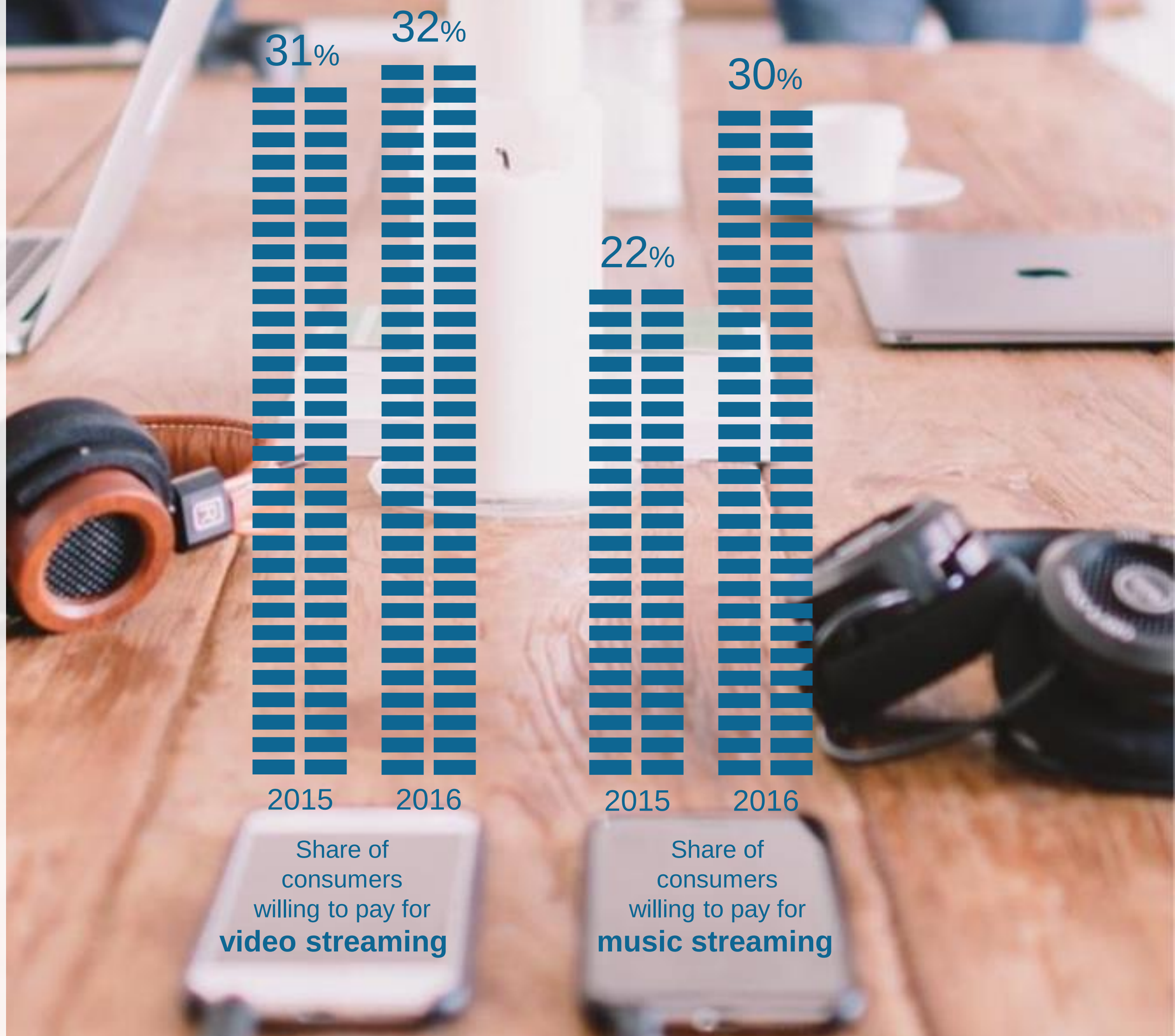
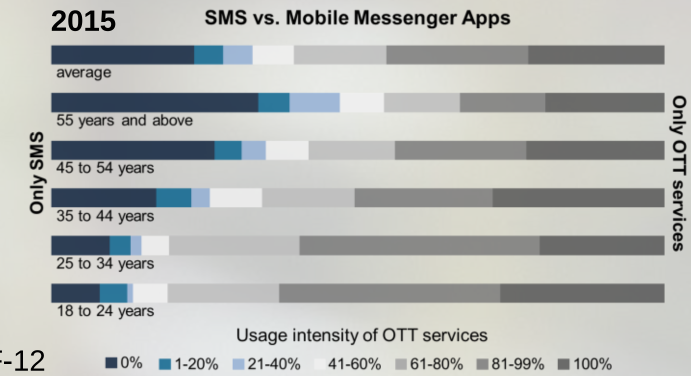


F-11

F-11: Representative survey n > 1,000 in 2015 and 2016; WIK calculations.

Farewell to the SMS?

From 2015 to 2016, there was little change in the share of consumers who rarely or never use WhatsApp and similar applications. However, heavy users of OTT services tended to increase their usage during the same time period. Thus, the share of consumers who use only OTT services for sending and receiving messages has grown, in particular with young consumer segments.



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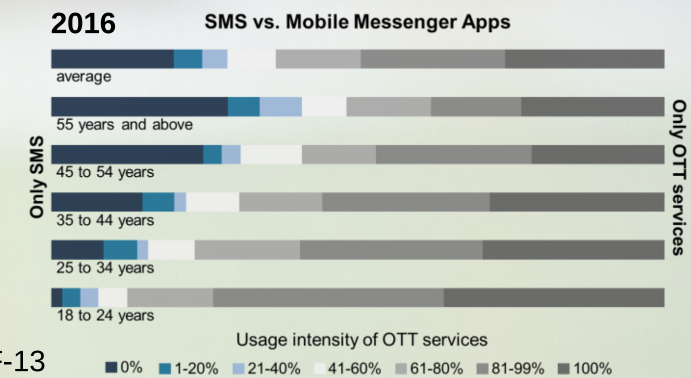

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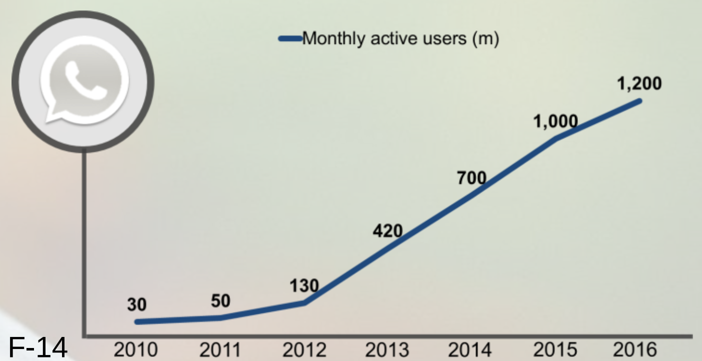


F-14

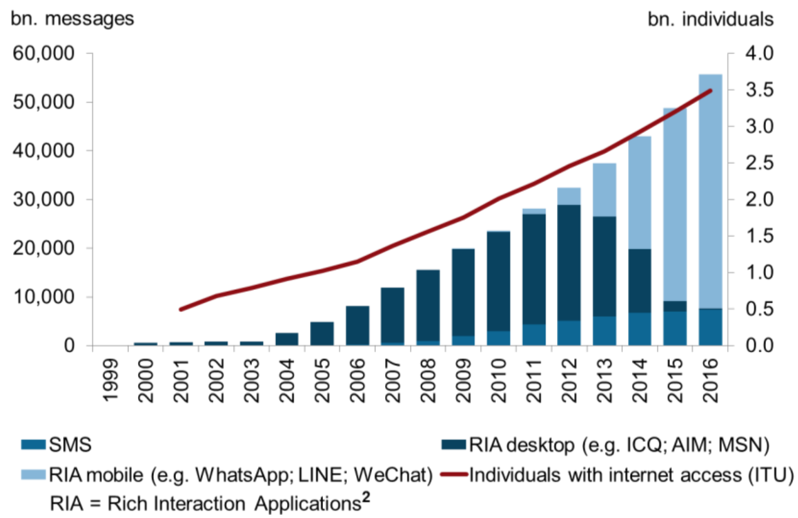
F-12: Representative survey n > 1,000 in 2015; WIK calculations.
F-13: Representative survey n > 1,000 in 2016; WIK calculations.
F-14: Trade publications and official communications by WhatsApp.

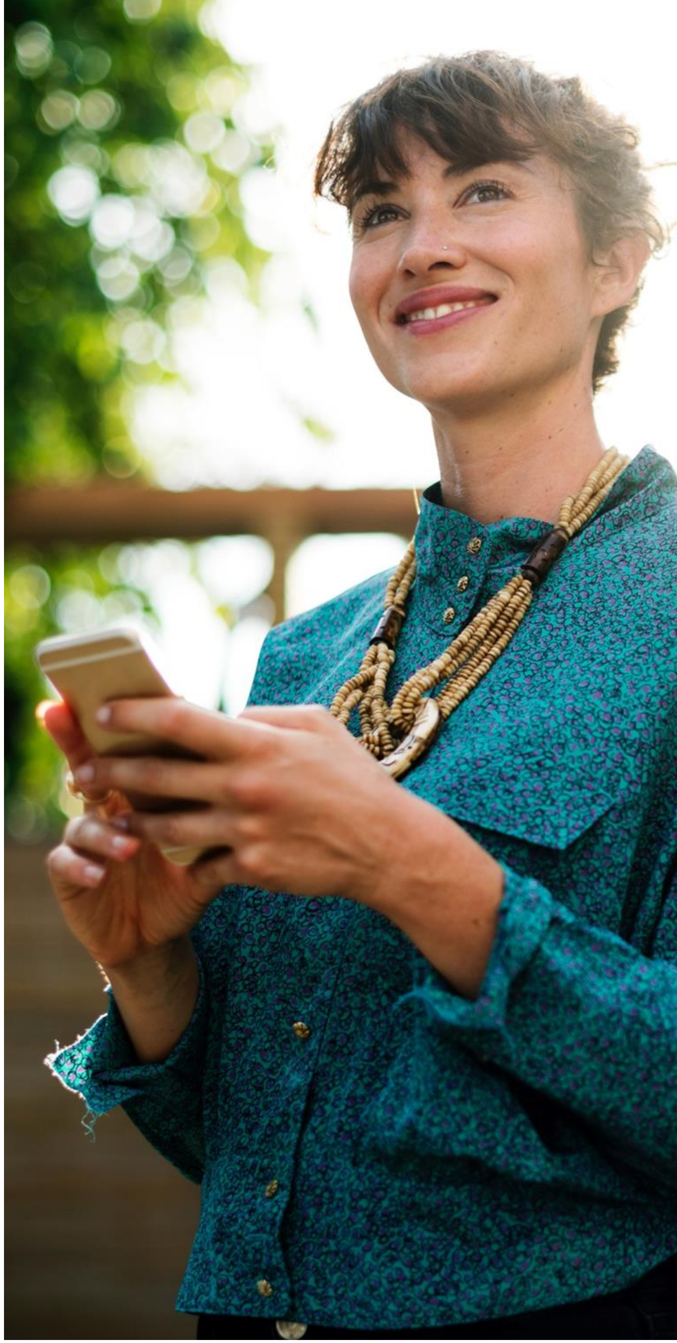
A lot more than just WhatsApp

Even though WhatsApp springs to mind immediately when one thinks of OTT services and communication, many other interaction applications are popular in Germany and worldwide. They range from well-known general applications such as iMessage, KakaoTalk, LINE, Signal, Skype, Snapchat, Threema, Viber and WeChat, to applications that focus on specific target groups like Disney Mix or Care Messenger, to applications popular locally like Hike (India), Jongla (Nigeria) and 2go (South Africa). In total, WIK analysed 139 of the most popular applications worldwide.[1]

One common trait for all these applications is that they innovate constantly. They keep adding new functions such as mobile payment, ordering a taxi, or even sending messages without a broadband connection. This constant development means their economic impact is getting closer to that of the full internet experience. WIK estimates that a 10% increase in the use of these apps will lead to a GDP increase of approximately US$1 billion daily, based on analysis of 164 countries over 16 years (2000 to 2015) using an econometric model.

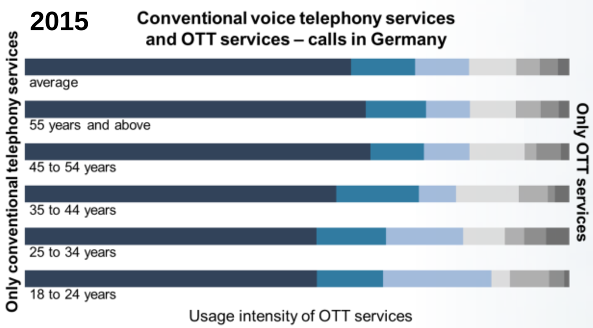
Furthermore, a look into the origins of OTT services that focus on enabling rich interaction shows that they follow an evolutionary path that is completely different from that of SMS. In fact, SMS only became really popular when consumers were already sending messages with pictures and videos on AIM, ICQ and Live. Consumers took the wealth of function they were used to with them when many other online activities migrated to the smartphone.





1 Arnold, René, Christian Hildebrandt, Peter Kroon, & Serpil Tas. 2017. The economic and societal value of Rich Interaction Applications. Bad Honnef: WIK.
2 We collate online applications whose core function is to enable rich interaction via text, voice, pictures, videos, etc. under the banner of Rich Interaction Applications (RIAs).

Telephony services in Germany



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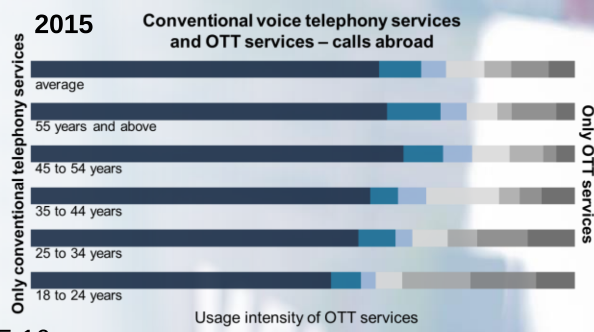

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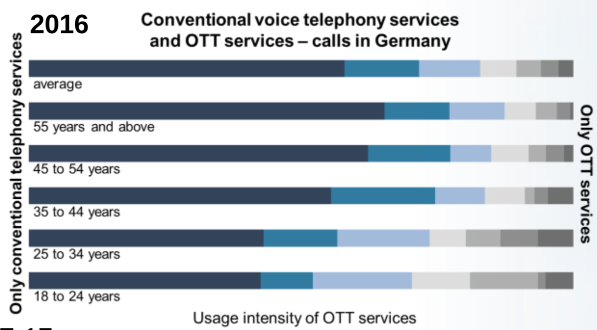

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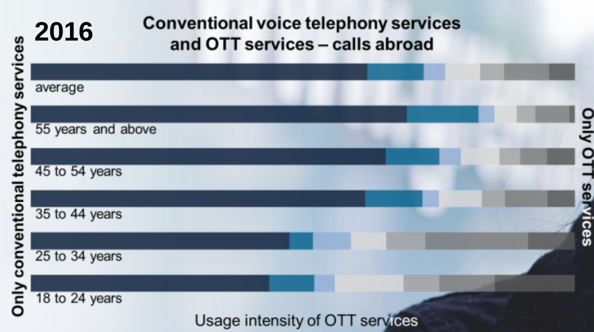

F-18

Comparing consumer preferences for traditional telephony services and VoIP as well as video call services in 2015 and 2016, we find only minor changes. Notably, young consumers' preference for FaceTime and WhatsApp calls appears to have increased. For international calls, the share of those who use only traditional telephony has increased for those aged 35 and over. New tariffs that have already abolished roaming fees within the EU may be the reason for this development.

F-15, F-16: Representative survey n > 1,000 in 2015; WIK calculations.
F-17, F-18: Representative survey n > 1,000 in 2016; WIK calculations.

Outlook

The present study underscores the significance of OTT services for consumers in Germany. The content and services they offer make the internet valuable and even indispensable for them.

The music industry and most TV stations have aligned to new online consumer preferences. Music-streaming services list almost all artists in their libraries nowadays. Equally, commercial and non-commercial video content is easily available online. Indeed, digitisation is in fast-forward mode, even with traditional players in the media industry.

With communications services, the evolutionary trajectories of traditional channels such as telephony and SMS do not appear to converge as much with OTT services. Instead, it is often argued that VoIP and in particular messenger applications that offer functions like sending pictures and videos substitute traditional services. First and foremost, our study shows that these rich interaction applications predate the SMS. Furthermore, our survey cannot confirm the alleged substitution.

In fact, very few German consumers rely solely on OTT services to communicate: only around 2% of German consumers did so in 2016, representing less than a 1% increase from 2015. The vast majority of German consumers use the various communication channels side by side. Depending on how close a specific acquaintance is and the aim and urgency of the matter, consumers will deliberately select a corresponding communication channel.

2015		2016
22%	Only conventional communications services	19%
77%	Conventional communications and OTT services	79%
1%	Only OTT services	2%

F-19 Use of different types of communications services in Germany

F-19: Representative surveys n > 1,000 in 2015 and in 2016; WIK calculations.

About this study:

The online survey for this study was conducted with two representative samples of 1,027 consumers between 30th November 2015 and 7th December 2015 and 1.003 consumers between 30th November 2016 and 5th December 2016 respectively by the international market research institute YouGov. The results were weighted to draw representative conclusions for the German population (age 18+). Additionally, 20 qualitative interviews were conducted in November and December 2016.

About WIK:

Founded in 1982, WIK (Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste) in Bad Honnef, Germany offers consultancy for public and private clients around the world. Its focus is on the telecommunication, Internet, post and energy sectors giving advice on policy, regulatory and strategic issues.
More information is available at: www.wik.org.
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About Fresenius University of Applied Sciences:

Founded in 1848 by Carl Remigius Fresenius, and with its roots in the Fresenius Chemical Laboratory, the Fresenius University of Applied Sciences can look back on over 168 years of privately funded educational tradition in Germany. True to the intent of its founder, it combines teaching, research, and practical application.
More information is available at: http://www.hs-fresenius.de/en.