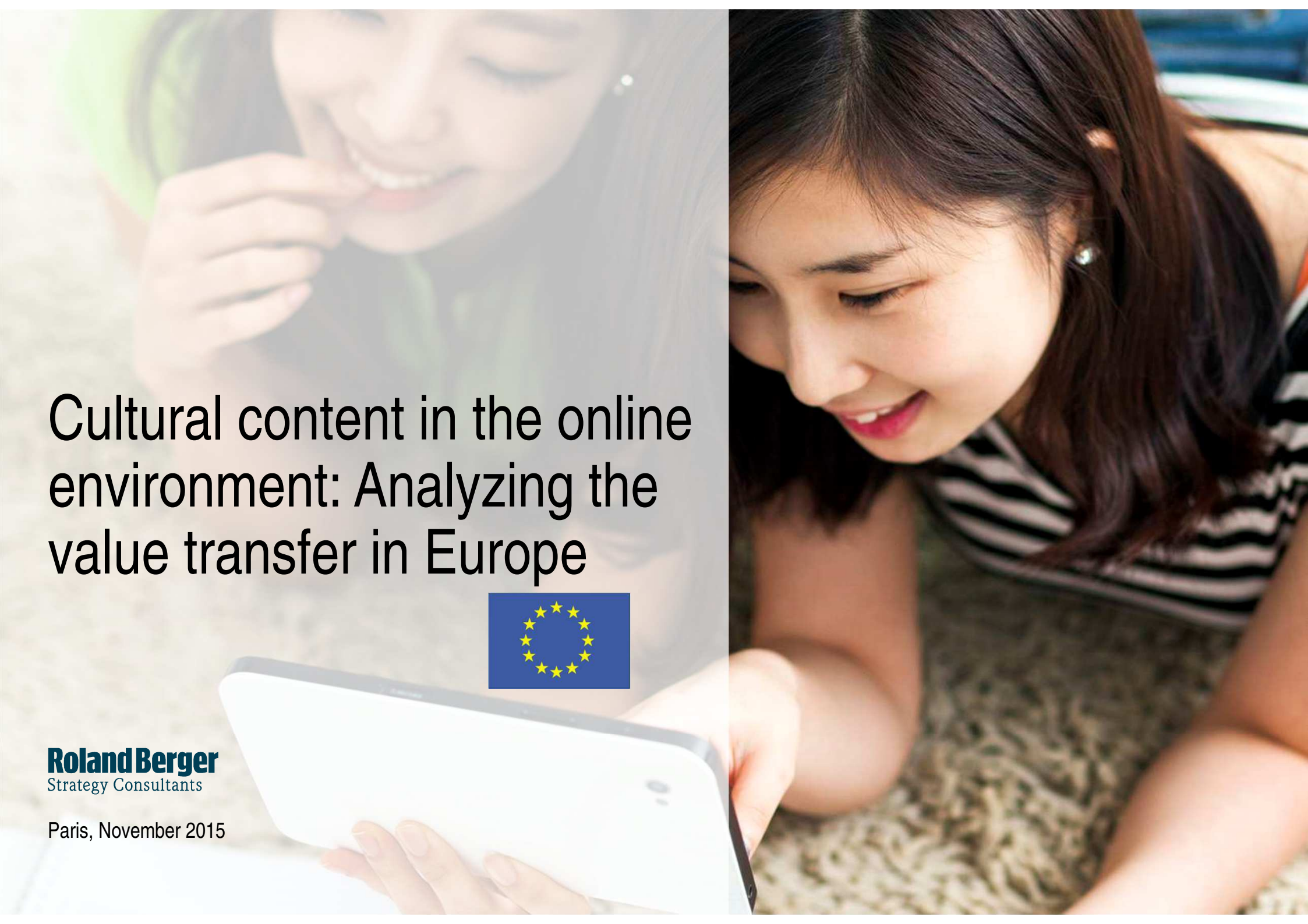
Cultural content in the online environment: Analyzing the value transfer in Europe



Roland Berger
Strategy Consultants

Paris, November 2015

Forewords

- This report was prepared with the support and upon the request of GESAC (European Grouping of Societies of Authors and Composers)

- This report is based on publicly available figures and Roland Berger Analysis. In addition, 4 country-specific usage studies have been performed in France (Google usage study in February 2015 and Facebook usage study in March-April 2015) and in Italy (Google usage study in March 2015 and Facebook usage study in June 2015) which have been the basis for Search Engines and for Social Networks analysis

- This report is mostly an enhancement over usage studies aiming at assessing the share of Technical Intermediaries revenues directly generated by all usages (access, talk, e-commerce…) related to all Cultural Contents. A first estimate of the indirect impacts (i.e. related to the implicit effect such as stickiness and usage frequency) is also conducted in the report

- When public figures were not available (such as country-level revenue for most players), Roland Berger estimates have been used, based on publicly available figures (including population, households, share of connected population, advertising market data,…)

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Strategy Consultants

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EXECUTIVE SUMMARY

Cultural content in the online environment: Measuring the value transfer

Roland Berger Strategy Consultants

This report aims at answering key questions regarding digital Technical Intermediaries and the "value generation gap" for cultural content

1 Context

> **From the medium and device perspective, cultural content**, which includes among others cinema, music, radio, photography, TV, press, live, books and video game content, is **shifting from physical ownership to a cloud-based and flow-based usage**

> Consumers have followed and adopted successive technology developments and are now **connected** almost **continuously**

> As a consequence, cultural content offer is now particularly abundant, opening the field to an **heterogeneous scope of so-called digital intermediaries** (Licensed Digital Distributors and Technical Intermediaries), and raising the issue of **value creation from cultural content in the digital environment**

2 Scope of the study

> Along with licensed digital distributors (OTT services, including generalists such as iTunes and specialists such as Netflix or Spotify), **Technical Intermediaries cover a wide range of players and models**, from Search engines and Social Networks to Content Aggregators and Cloud Services specialists

> This report objective is to answer key questions regarding **Technical intermediaries at European level that may benefit from responsible for a "value generation gap" from cultural content**

- Among **digital intermediaries**, some categories should remain out of scope being covered by **licensing agreements and compensation systems**
- Therefore, the report will focus especially on **Technical intermediaries which generate value from cultural content** without any compensation or without appropriate compensation to date

> Several OTT players have been selected as **benchmarks** for this study, with an analysis of their service offer types and business models: Netflix and Spotify

> Key output is to understand and assess overall **value creation levers**, being either in terms of **revenue** or **other mechanisms**

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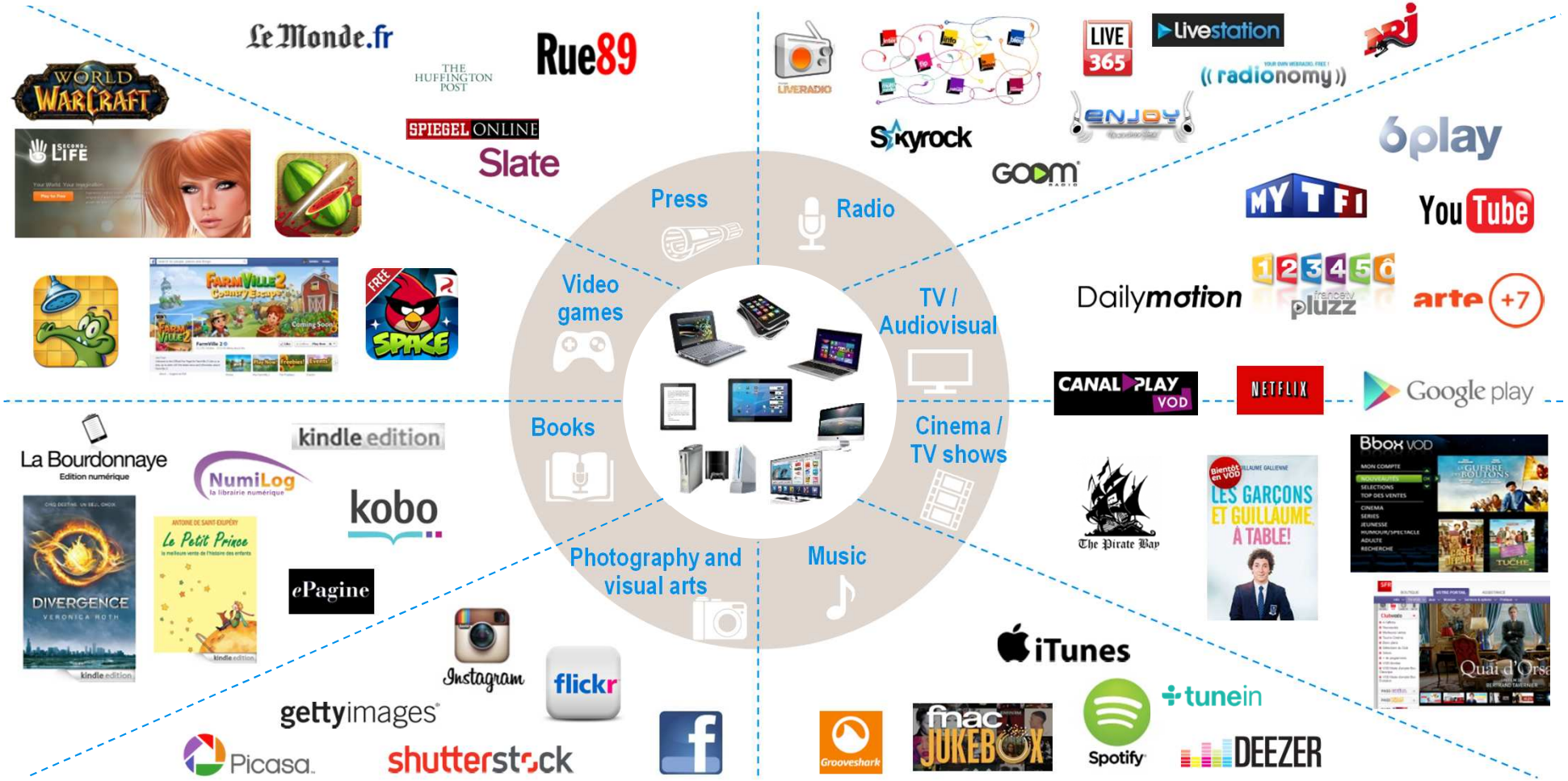
Cultural content offer available through connected usages is now particularly abundant

Cultural content offer panel available from a connected device



Source: Press reviews, Roland Berger analysis

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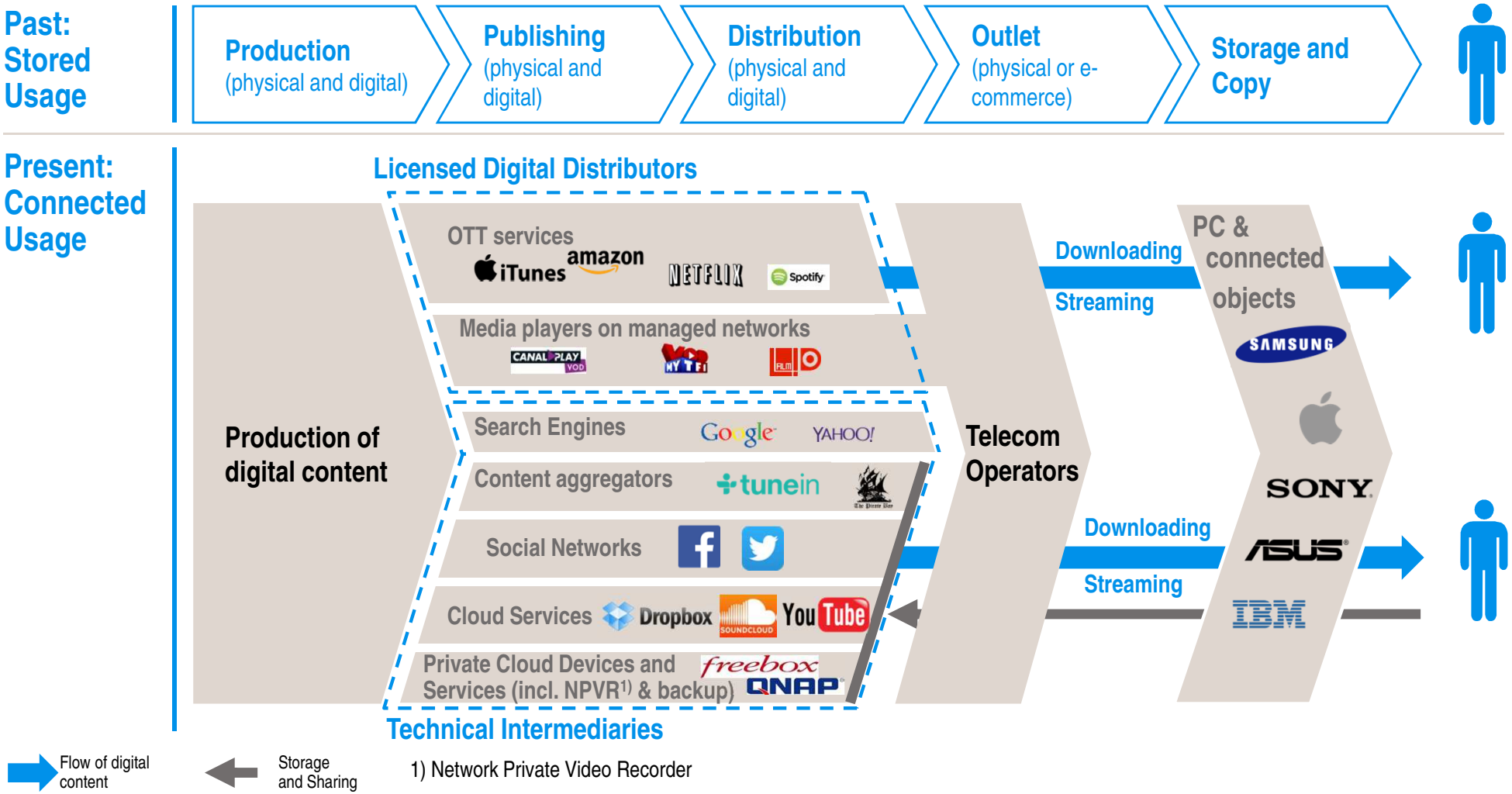
Hence, new Technical Intermediaries and Licensed Digital Distributors have entered the playground, impacting industry's value sharing

Evolution of the value chain of cultural content exploitation



Source: Roland Berger analysis

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Technical intermediaries as well as licensed content distributors cover a wide range of players and models

Mapping of major intermediaries in the digital ecosystem

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Digital distributors

Technical intermediaries

Licensed digital content distributors

OTT services: iTunes, amazon, Google play, NETFLIX, blendle, Spotify, fnac

Media players on managed networks: CANAL PLAY VOD, MYTF1, FILM

Search Engines

Search engines: YAHOO!, bing, Google, Qwant, DuckDuckGo

Content Aggregators

Publisher-based content interface: tunein, iHeart RADIO

Redirection platforms: 8tracks, THE HYPE MACHINE, Can I Stream.it?, bop

P2P portals and Redirection platforms: FULL STREAM, PPSTREAM, popcorntime, KICKASS Torrents, The Pirate Bay

Social Networks

Personal networks / Social media: facebook, twitter, Pinterest, Instagram, flickr, +8

Blog publishing platforms: tumblr., Skyrock.com, Blogger

Professional networks: viadeo, LinkedIn

Cloud Services

Lockers: Dropbox, OneDrive, amazon cloud drive, iCloud, box, SPIDEROAK, Google Drive

Public video/ audio platforms: YouTube, Dailymotion, metacafe, vimeo, SOUNDCLOUD, veoh, BREAK

Rip-based Public video/ audio platforms: PUREVID, Grooveshark

Private Cloud

> Services

> Devices / Backup based

Cloud player services: iTunes Match, amazon Prime music, Google Play Music

nPVR (nDVR, RS-DVR): kpn, Telefónica, belgacom, FASTWEB, telecable

ISP NAS DVR: freebox

Pure back-up services: CARBONITE, CRASHPLAN, JungleDisk, symform

NAS: Synology, QNAP, HITACHI Inspire the Next, Thecus

Scope of the project | To be benchmarked | Sites frequently targeted in piracy matters | Out of scope

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Licensed digital content distributors are the reference channel for digital distribution - ~70% of gross revenue is spent on content

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> Licensed digital content distributors are of importance as they tend to stand as the **reference channel for content distribution**, being for example for music (Spotify) or video (Netflix)

> Licensed digital content distributors include both **pure online players** (Spotify) and players that successfully **achieved a digital transformation**, as illustrated by Netflix which historical activity (DVD rentals) accounts for less than 15% of revenue as of today

> Cultural content is therefore both the basis and the core of their Business Model and is a key factor to retain customers – **100% of their value and revenue are based on distributed cultural content**

> **Players are now strongly challenged** in the new environment, as illustrated by the current shake-up taking place between record companies, cultural content e-shops and rip-based content aggregators / content hosts (e.g. Grooveshark shutdown in may 2015)

> Value creation mechanism can differ from one player to other:

A Spotify – freemium model – Average royalty repayment of 70% of gross revenue

- 9% of revenue is generated by advertising to "free" users; those represent 2/3 of the customer base and have a negative average net revenue per user (ARPU, after royalties)
- 91% of revenue is generated by premium users fees; those represent 1/3 of the customer base and generate a net ARPU of ~42.7 EUR per year (after royalties)
- Overall, Spotify generates an average annual net revenue per user of 5.1 EUR (after royalties)[1)]

B Netflix – subscription-based model – Average content acquisition cost of 73% of gross revenue

- 100% of Netflix revenue is generated by subscriptions (DVD rental and video streaming)
- 86% of revenue is generated by video streaming, which is used by 89% of the customer base (gross ARPU of 62 EUR)
- Overall, the website generates an average annual net revenue per subscriber of 16.6 EUR per user

1) ***This figure is based on blended approach of free and paid streams. It is to be noted that the business model mainly relies on the subscription model, which is more likely to be the proxy when comparing with the completely free streaming services undertaken by the "technical intermediaries" analysed in this report***

Source: Roland Berger analysis

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Benchmarked pure online licensed digital content distribution players from music and video industries show comparable value sharing approaches with right holders

Benchmarks summary on online content streaming [2014]

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Audio

Spotify

Average royalty repayment [% of revenue]

70%

Annual revenue per user[1)]
EUR 17

Annual net revenue per user[1)] (after royalties)
EUR 5.1

Annual net revenue per premium user[1)] (after royalties)
EUR 42.7

Annual net revenue per free user[1)] (after royalties)
EUR -7.4

Royalties per digital listen
EUR 0.006

Video

NETFLIX

Average content acquisition cost [% of revenue]

73%

Annual revenue per user[1)]
EUR 62

Annual net revenue per user[1)] (after content costs)
EUR 16.6

Annual net revenue per US streamer (after content costs)
EUR 22.2

Annual net revenue per streamer (excl. US) (after content costs)
EUR 4.7

1) Number of users: end of period

Source: Roland Berger analysis

Roland Berger
Strategy Consultants

The direct impact of cultural content on technical intermediaries revenue generation reaches 23% of their total revenue, to an amount of EUR 5.0 bn for Europe in 2014 (1/2)

Technical intermediaries create value thanks to cultural content in two ways:

> **Direct impact**, through **direct consumption or showcase** of (or monetized direct links to) cultural content (e.g. Google AdWords, in Facebook feed,…)

> **Implicit or collateral impact** (qualitative): in a fast-moving, technically complex, **oligopolistic and usage-driven competition**, market leaders derive increased future revenue generation capabilities, consumers knowledge and market valuation from those same **usages that are significantly driven by cultural content**

Source: Roland Berger analysis

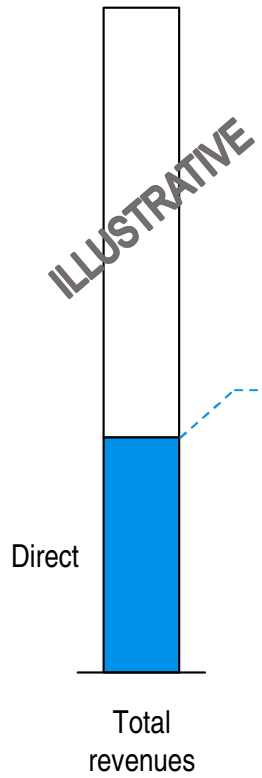
Roland Berger Strategy Consultants

The overall EU value gap yields from a bottom-up and segmented approach

Methodology

1. Analysis of the Value Chain and identification of key players per typology

2. Assessment for main players, of the share of revenue directly generated / due to cultural content



Direct : revenue generated from the direct monetization and direct commerce of cultural content or related advertising inventory

- > Is it a "normal" commercial deal ?
- > Is the distribution legal ?
- > Is there an agreement with right holders ?
- > Is there a value generation gap ?

3. Extrapolation of the results to build the European picture

- > **Extrapolate** data either for an **industry** (eg music) or to a given **typology** of players (eg search engine)
- > **Example** : Google has 96% of market share (# users in EU, 2014), which easily provides a reliable picture of search engines

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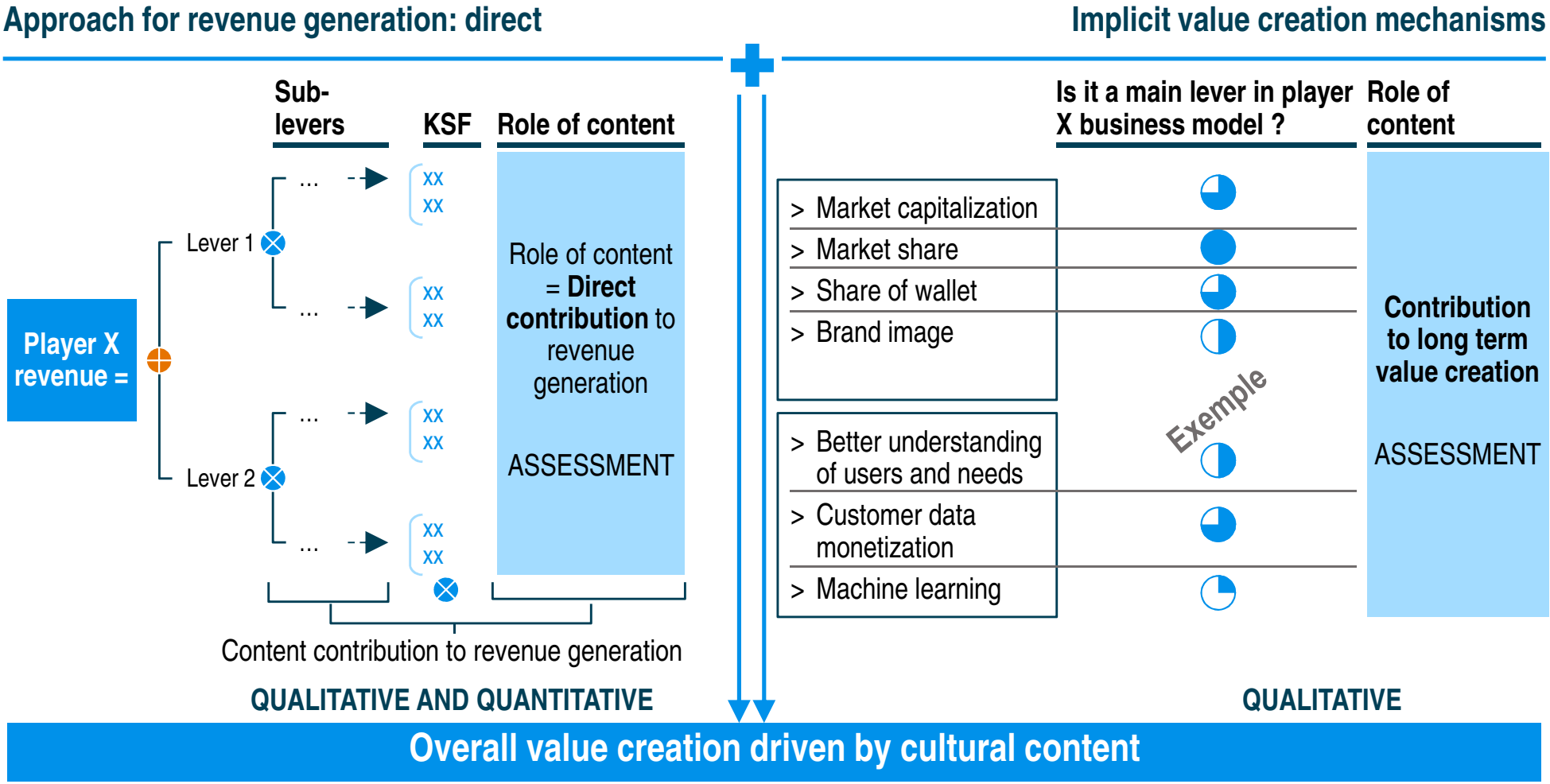
Source: Roland Berger analysis

Roland Berger Strategy Consultants

Content direct contribution to revenue generation can be assessed as well as implicit contribution to value creation

Content direct impact on value creation



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Source: Roland Berger analysis

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The direct impact of cultural content on technical intermediaries revenue generation reaches 23% of their total revenue, to an amount of EUR 5.0 bn for Europe in 2014 (2/2)

Overall **direct impact cultural content** in revenue generation by Technical Intermediaries is **very significant,** and stands at **EUR 5.0 bn for Europe in 2014, i.e. 23%** of Technical Intermediaries revenue

> **Most of the value creation relates to Search Engines**, in part due to their very large market: for S.E. only, cultural content has a direct impact of **EUR 3.0 bn on revenue** (18% of the total), and **for Google only, EUR 2.8 bn**.

> **Social Networks** are the second largest beneficiaries of cultural content-driven revenue generation: **direct impact is above EUR 1.3 bn (43%)** due to the sheer **quantity of embedded content**, that drives advertising revenue

> **Public platforms** such as YouTube are highly reliant on cultural content, which have a direct impact on **66% of their revenue (EUR 0.48 bn)**; **Aggregators** are in a similar situation (**75% direct impact**, to EUR 75 m), while **Lockers** are impacted **only to 3%** of their revenue

> Such figures do not include the "hidden" impact of illegal usages, which are cannibalizing value worth billions of Euros

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Source: Roland Berger analysis

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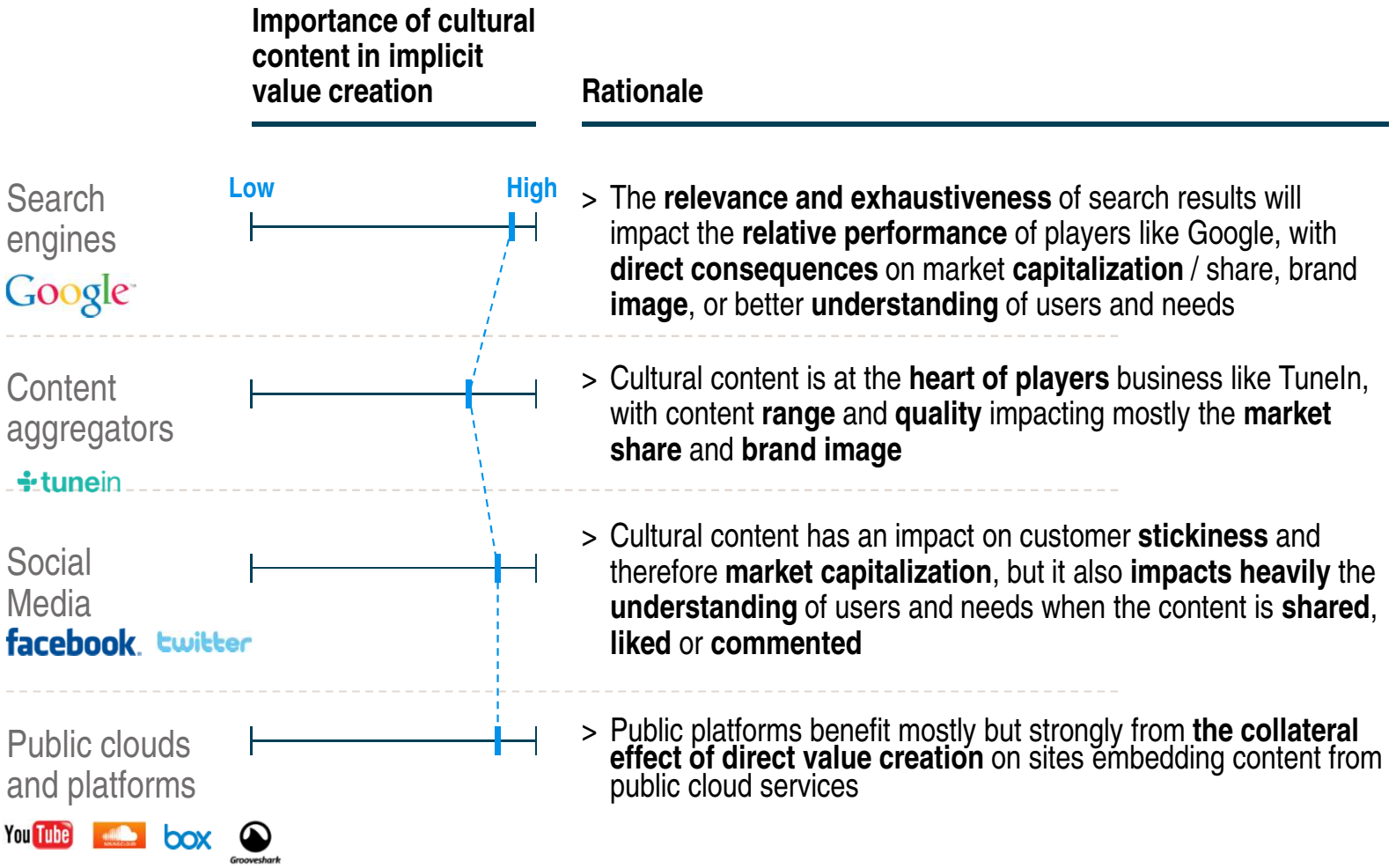
Beyond revenues, all intermediaries benefit from the impact of cultural content on implicit and collateral value creation

Importance of cultural content in other mechanisms of value creation



No matter the profile, or size, or business model of analysed players , they all benefit – beyond revenues – from cultural content in terms of implicit and collateral value creation

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Source: Roland Berger analysis

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The direct European cultural content value differ from one intermediary typology to the other – overall several billions at stake

Overview of technical intermediaries – [Cultural content in Europe; EUR m ; %][1)]

Main player identified and analyzed				Europe	
Typology and player example		Total Revenue	Direct impact of CC	Total Market value	Direct impact of CC
Search engines	Google	15 470	~2 835 (18%)	16 140	~2 960
Content aggregators (music)	tunein	20	~15 (75%)	100	~75
Social Media	facebook	2 450	~1040 (43%)	3 160	~1 340
Lockers	box	100	~3 (3%)	1 740	~50
Public video platforms	YouTube	720	~475 (66%)	845	~555
TOTAL				21 985	~4 980 *(23%)*

1) All figures rounded from most accurate calculation – hence offsets in sums of figures presented

Source: Roland Berger analysis

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Introduction

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Cultural content, including audiovisual, photography and press content, is shifting from physical ownership to a cloud and flow-based usage

New usage shift

Stored Usage

Analog Storage

Mobile digital storage

Fixed device

Other devices

Connected Usage

Platform

Cloud (public and private)

DEEZER Spotify amazon.com

Networks (Internet)

Connected Objects

Smartphone | Digital Tablet | Ereaders | MP3 Player | Laptop | Desktop computer | Connected TV | Connected car

Personal Use | Collective Use

Physical | **Flow-based**

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Source: Roland Berger analysis

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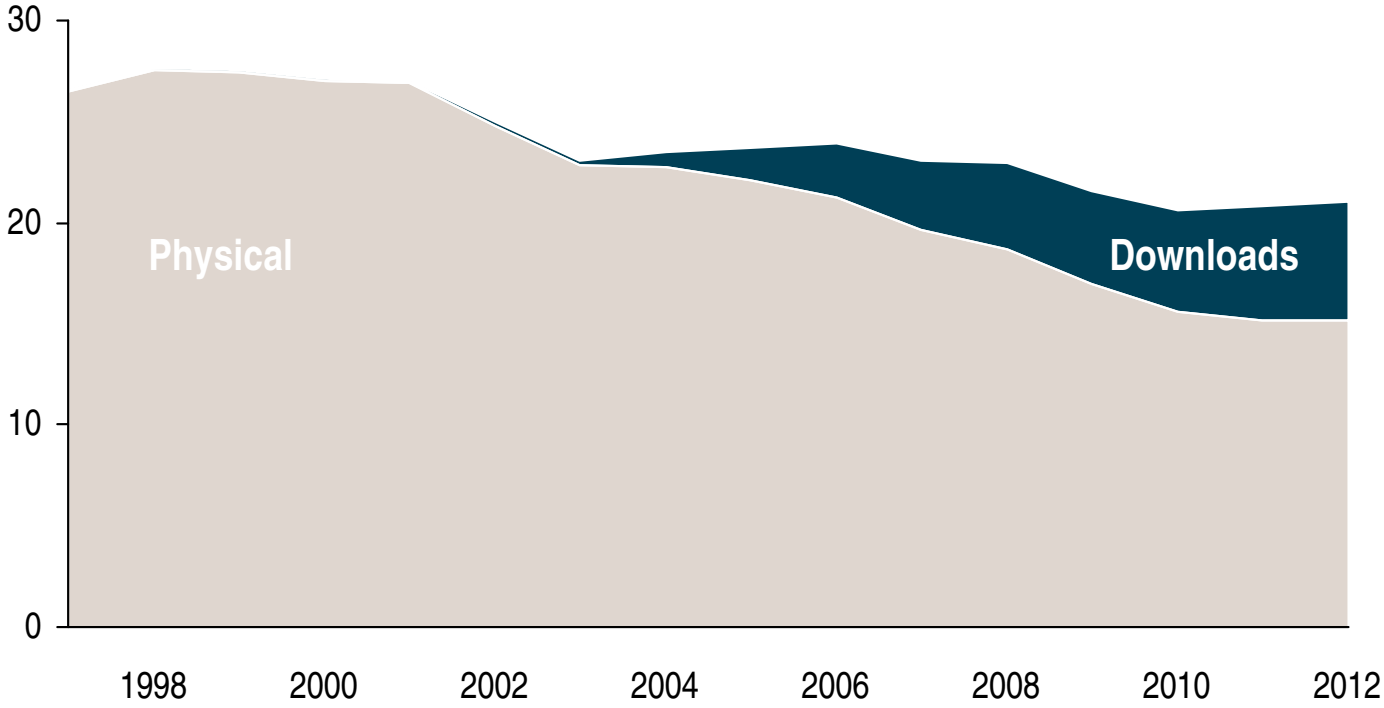
This trend can be seen in the continuous decline of music physical sales in favor of music downloads since ~10 years

Global value of recorded music industry – [1997-2012]

Global value of recorded music industry

[USD bn]



"For the first time in 2014, revenue generated by online music streaming in the US was higher than CD revenue"

Les Echos, May 2015

"In the end, the online subscription model will be much more remunerating for everyone"

Guillaume Leblanc, Head of SNEP[1)]

1) SNEP: Syndicat National de l'Edition Phonographique – National association of music publishers

Source: Press, Spotify, Roland Berger analysis

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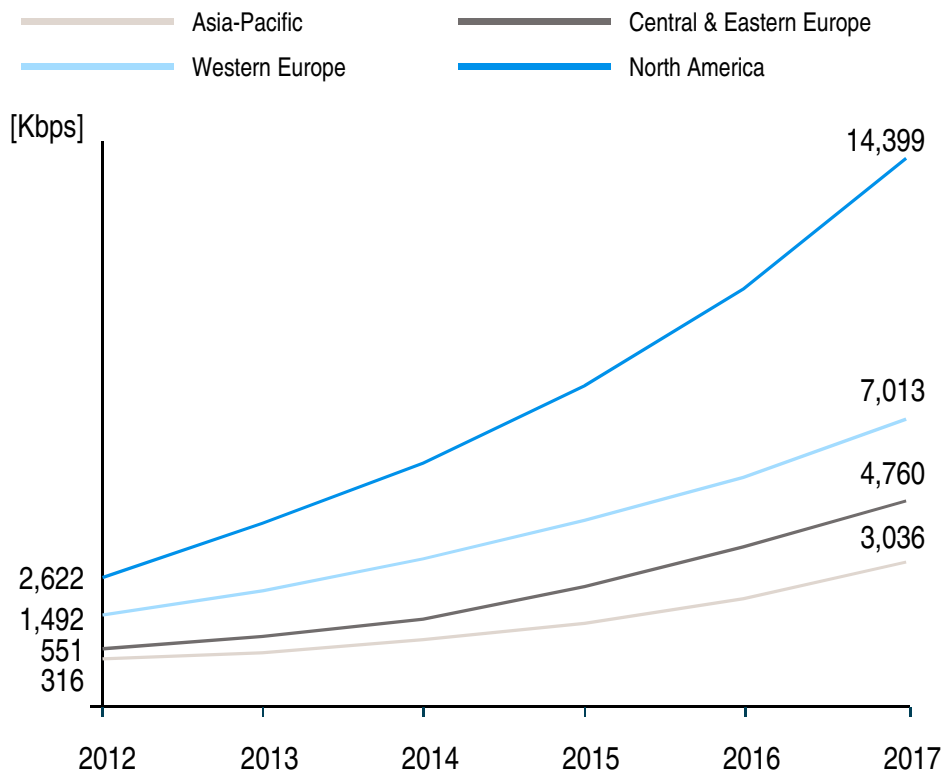
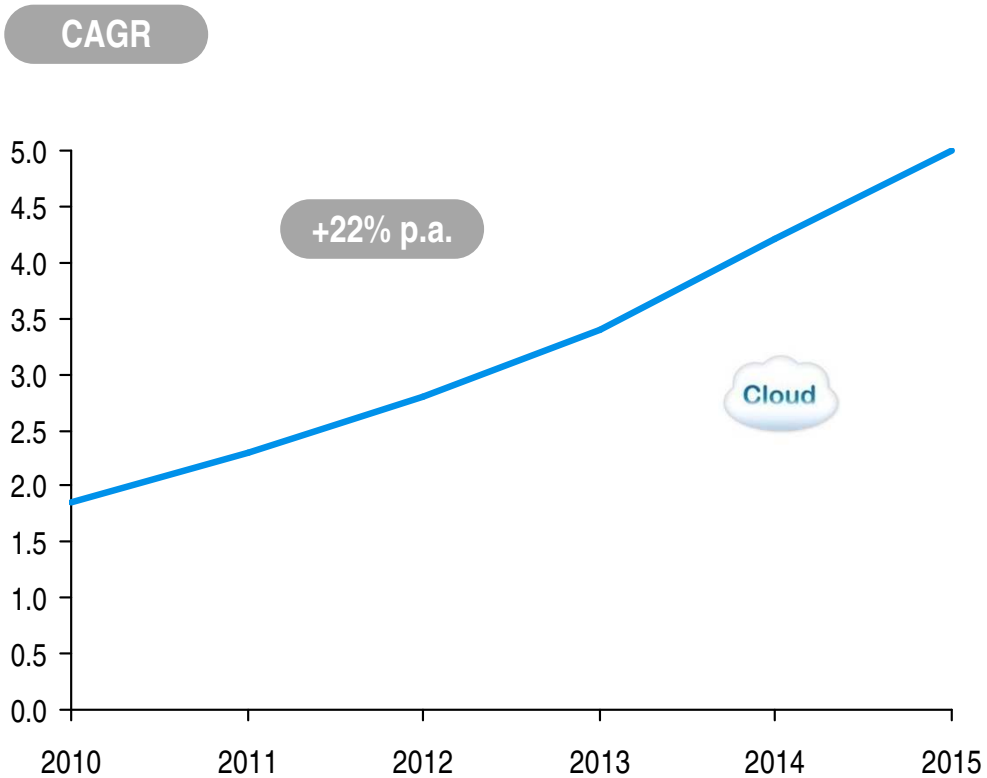
The development of new technologies, notably cloud computing and mobile technologies, has enabled easier and faster data sharing

New technologies evolution

Mobile data average connection speed [kbps[1]; World]



Cloud computing market [EUR bn; France]



1) Kilobit per second

Source: Markess 2013 barometer, CISCO, GFK, Roland Berger analysis

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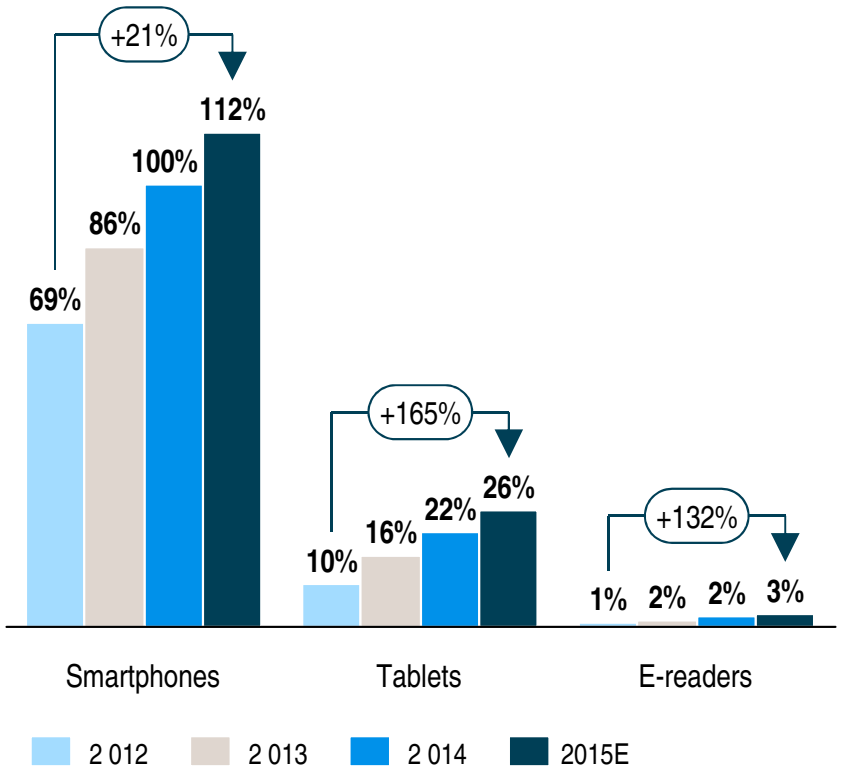
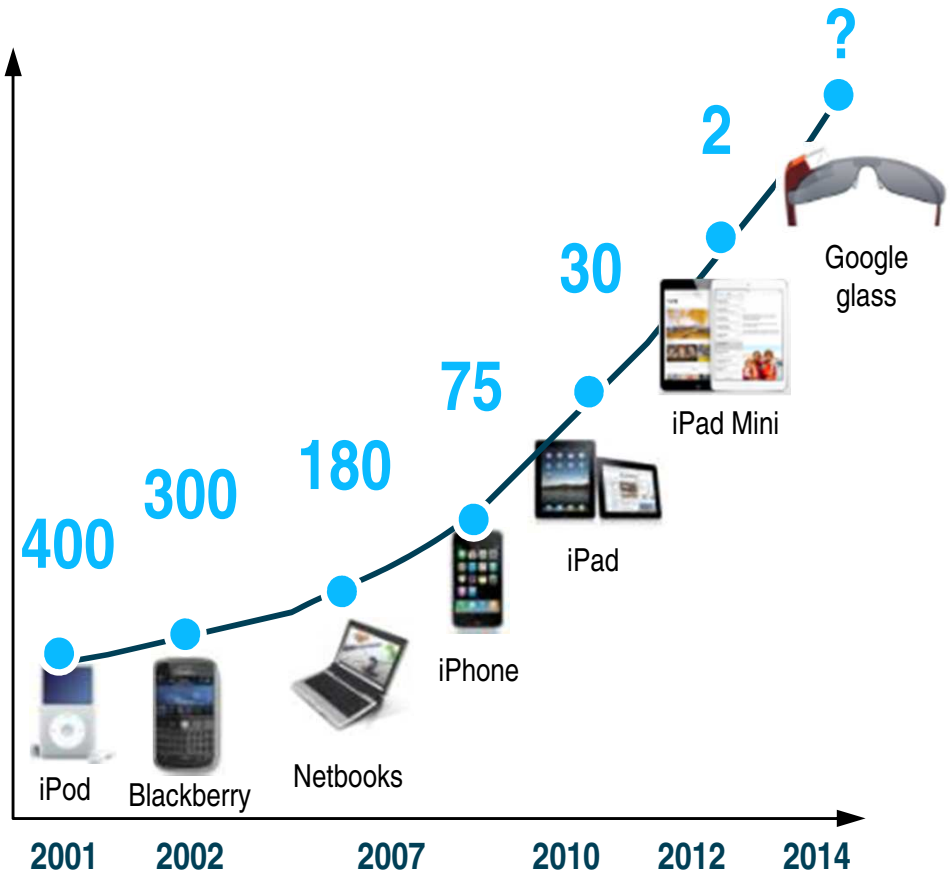
Connected usages are also driven by the increasing penetration of new connected devices – mainly laptops, smartphones and tablets

Connected devices and associated usages equipment rate

Connected devices penetration rate
[Household penetration; Europe; 2012-2015]



Speed of penetration – Number of days to reach 1M units sold [World]



Source: Yankee Group Global Consumer Forecast, press release, Roland Berger analysis

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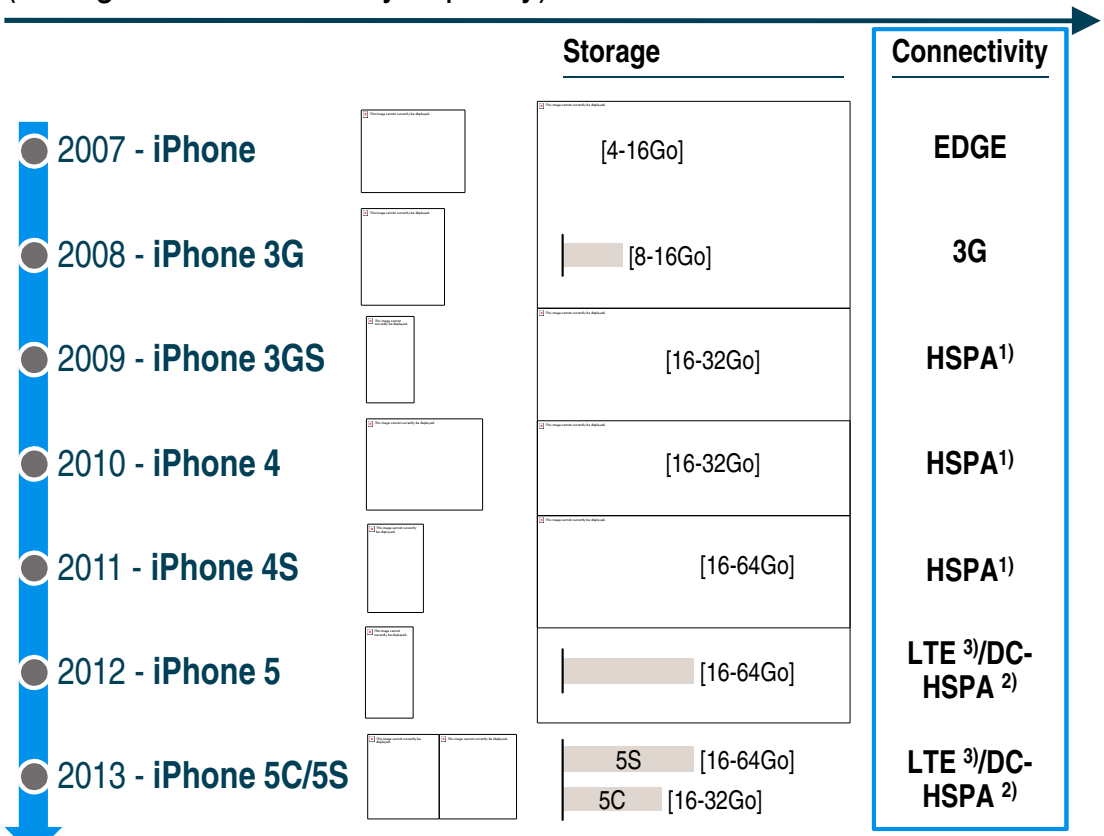
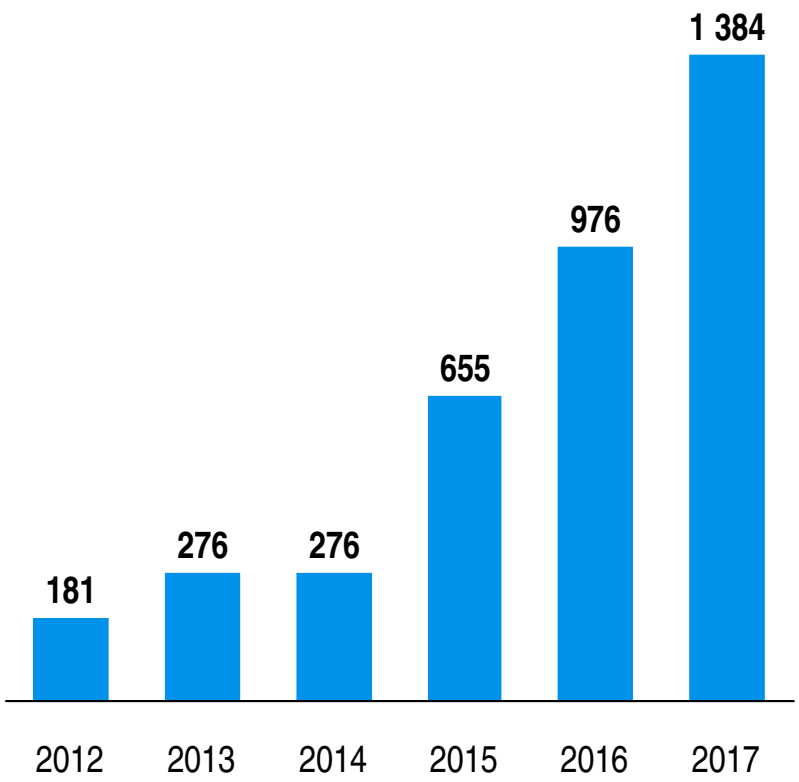
Manufacturers are both pushing and following these trends through evolving specs (memory, bandwidth)

Importance of network speed for connected devices

iPhone evolution example
(storage and connectivity capacity)



Mobile data consumption evolution in Western Europe [2012-17 ; '000 To/month]



1) HSPA : High Speed Packet Access (3G+); 2) DC-HSPA : Dual Carrier High Speed Packet Access (3G++); 3) LTE : Long Term Evolution (4G)

Source: Cisco, Apple, Roland Berger analysis

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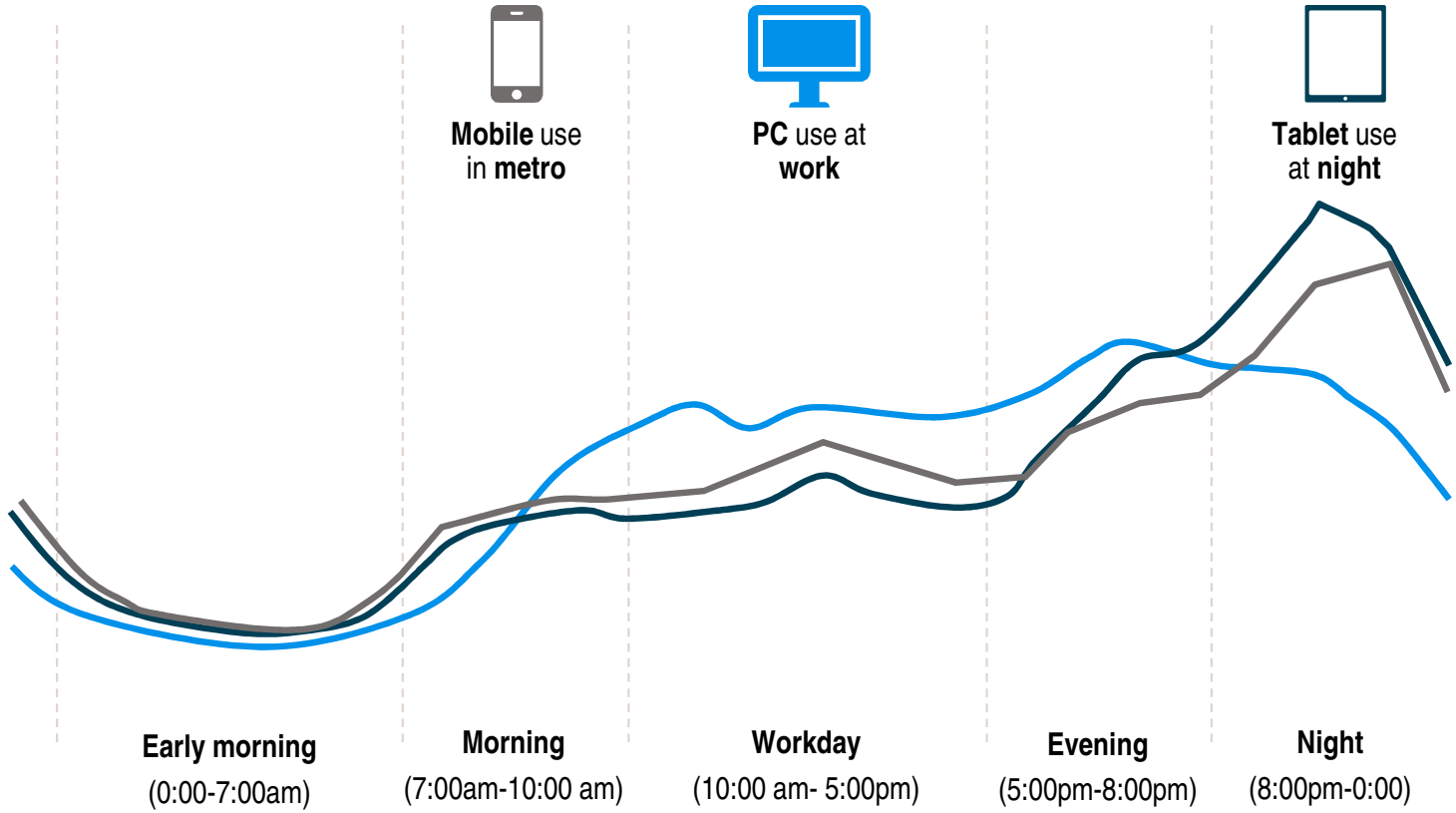
Consumers have followed these successive developments and are now connected almost continuously

Typical distribution of page views per connected device during the day – [# of page views]



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Source: Markess 2013 barometer, CISCO, GFK, Roland Berger analysis

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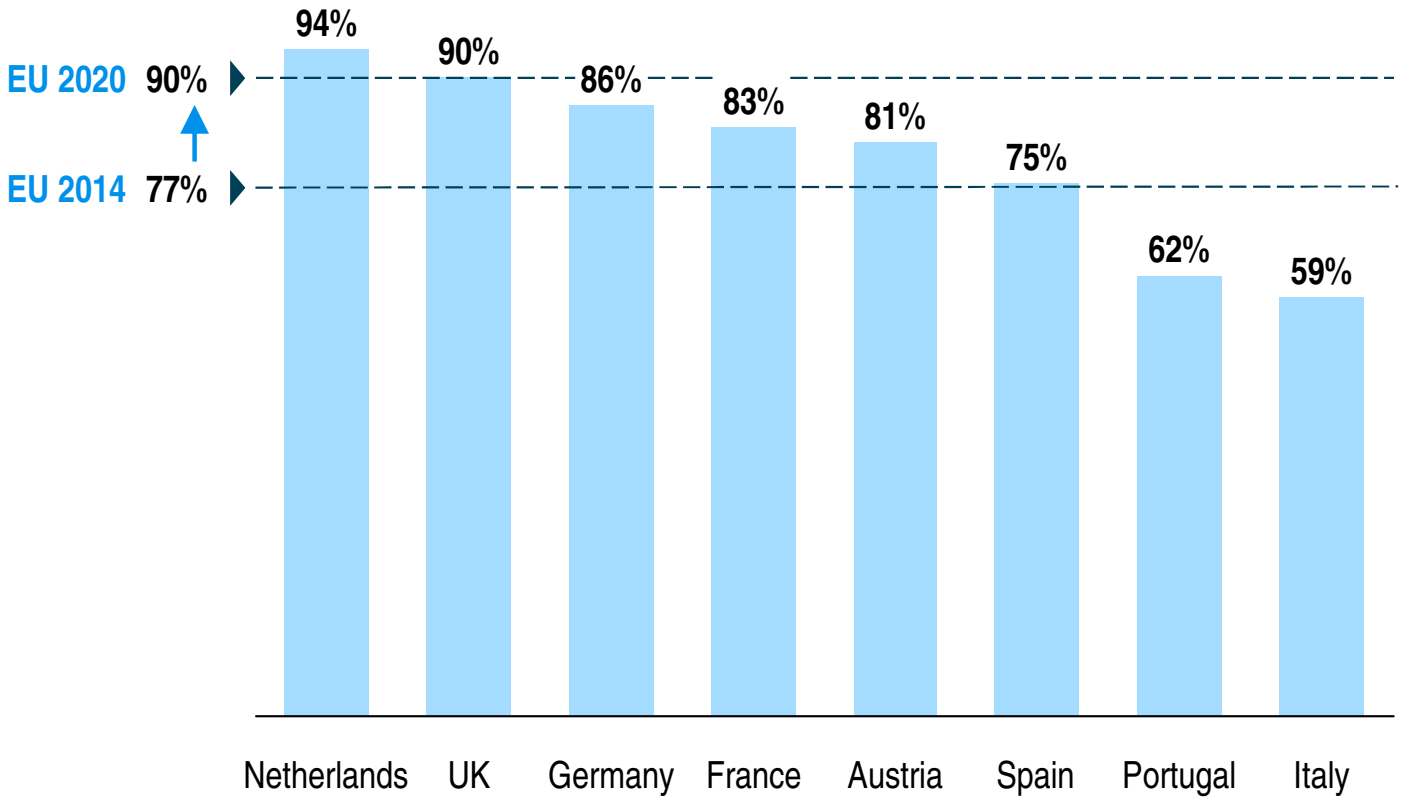
Over 3/4 of the European Union population is using the Internet as of today – Expected to reach 90% by 2020

Internet penetration in Europe [%; Dec. 2013]



391 million
of internet users in European Union

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Source: Internet World Stats, European Union Internet Statistics, Roland Berger analysis

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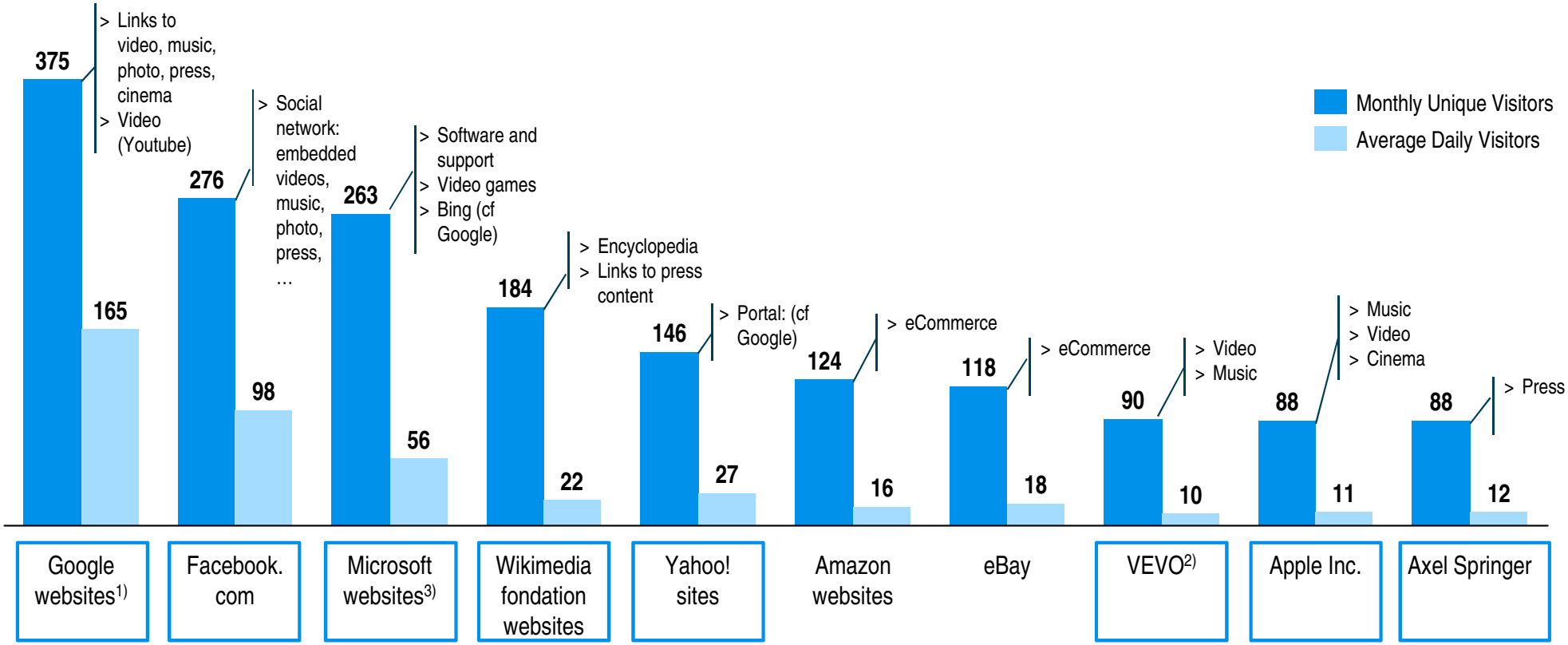
Consumers tend to visit mostly content-rich or content-linked websites (vs. commerce sites)

Top 10 European websites [m visitors; 2012]



1) Incl. YouTube 2) Joint venture of Universal, Sony and YouTube among others – Music videos from major record labels displayed on Vevo website and YouTube
3) Traffic boosted by Microsoft software "Help and How-to" web pages
Source: ComScore, Roland Berger analysis

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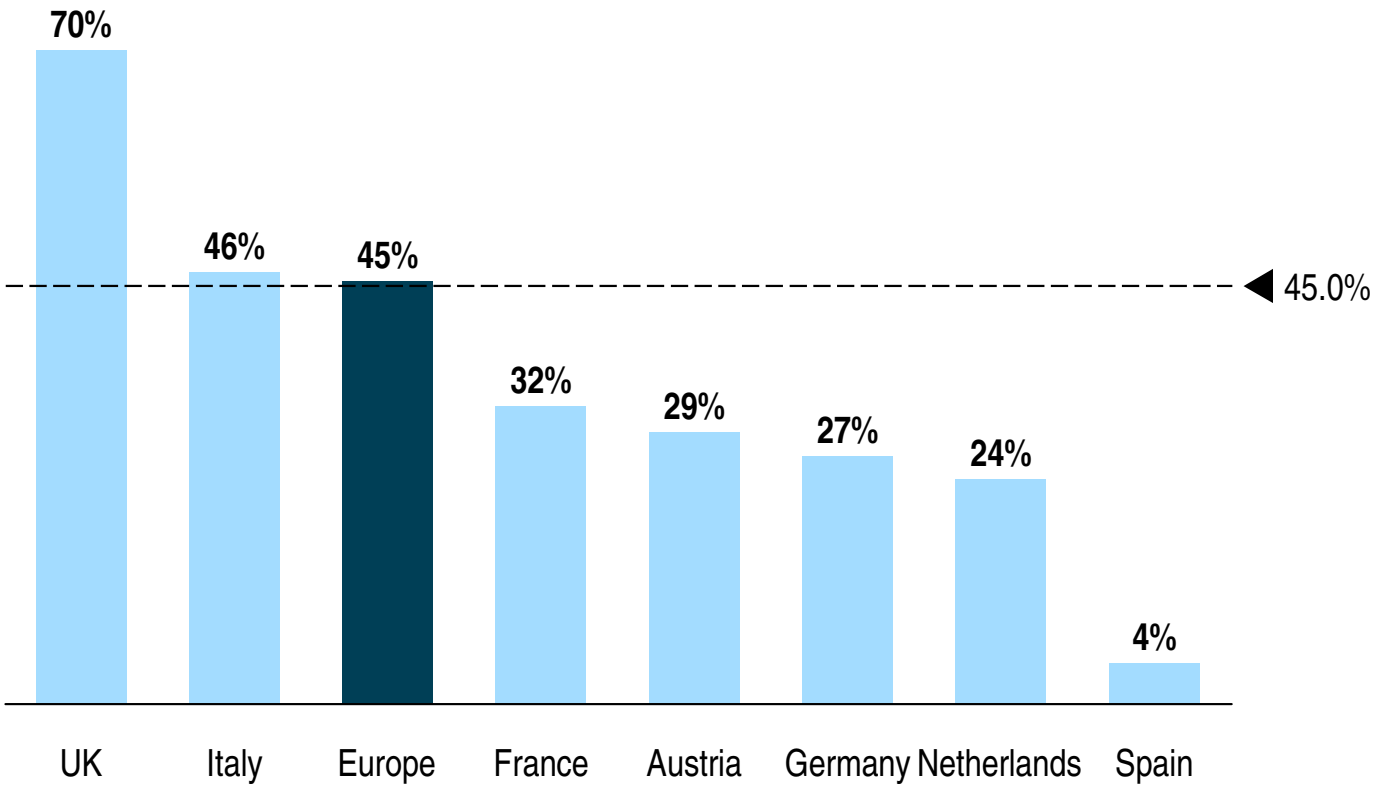
As an example, consumers online video usage grew by 45% on average in Europe between 2012 and 2013

Online video consumption growth in Europe[1] [m UV; 2012-2013 YoY]



73%
of European Internet users watch TV online

1) Selection of countries

Source: IAB Europe, Roland Berger analysis

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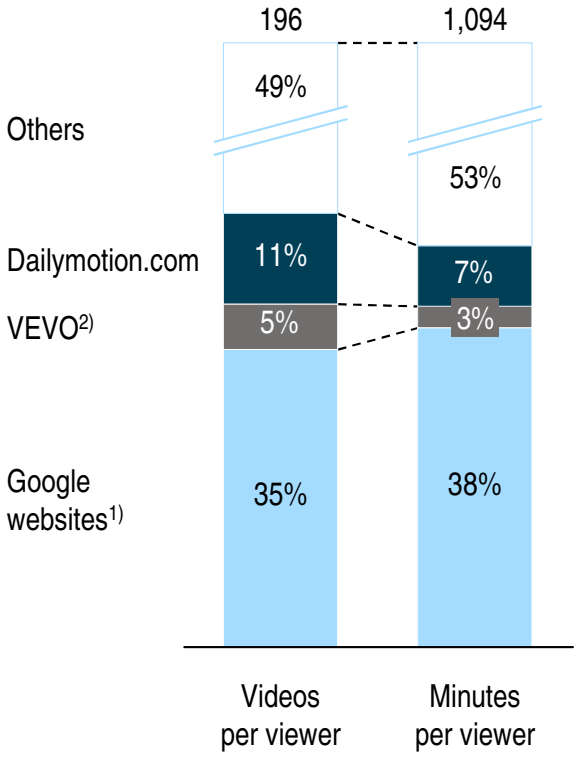
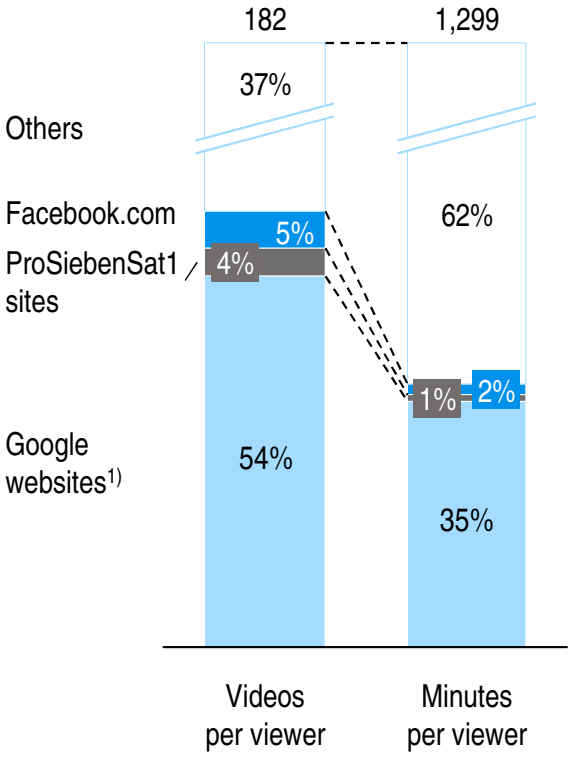
Although Google (YouTube) dominates, videos are more and more watched online on specialized platforms and on social networks

Online video consumption per player – Illustration

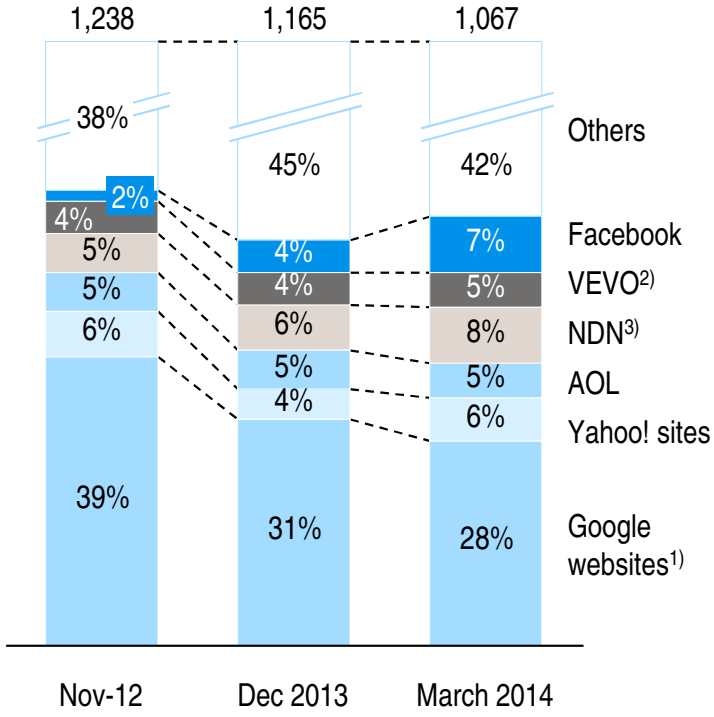
Video sites in France
[2012]



Video sites in Germany
[2012]



Evolution of minutes per viewer per platform in the US



Similar trend of Facebook expected in Europe ?

1) Incl. YouTube 2) Joint venture of Universal, Sony and YouTube among others – Music videos from major record labels displayed on Vevo website and YouTube

Source: ComScore, Roland Berger analysis 3) Video news syndicator

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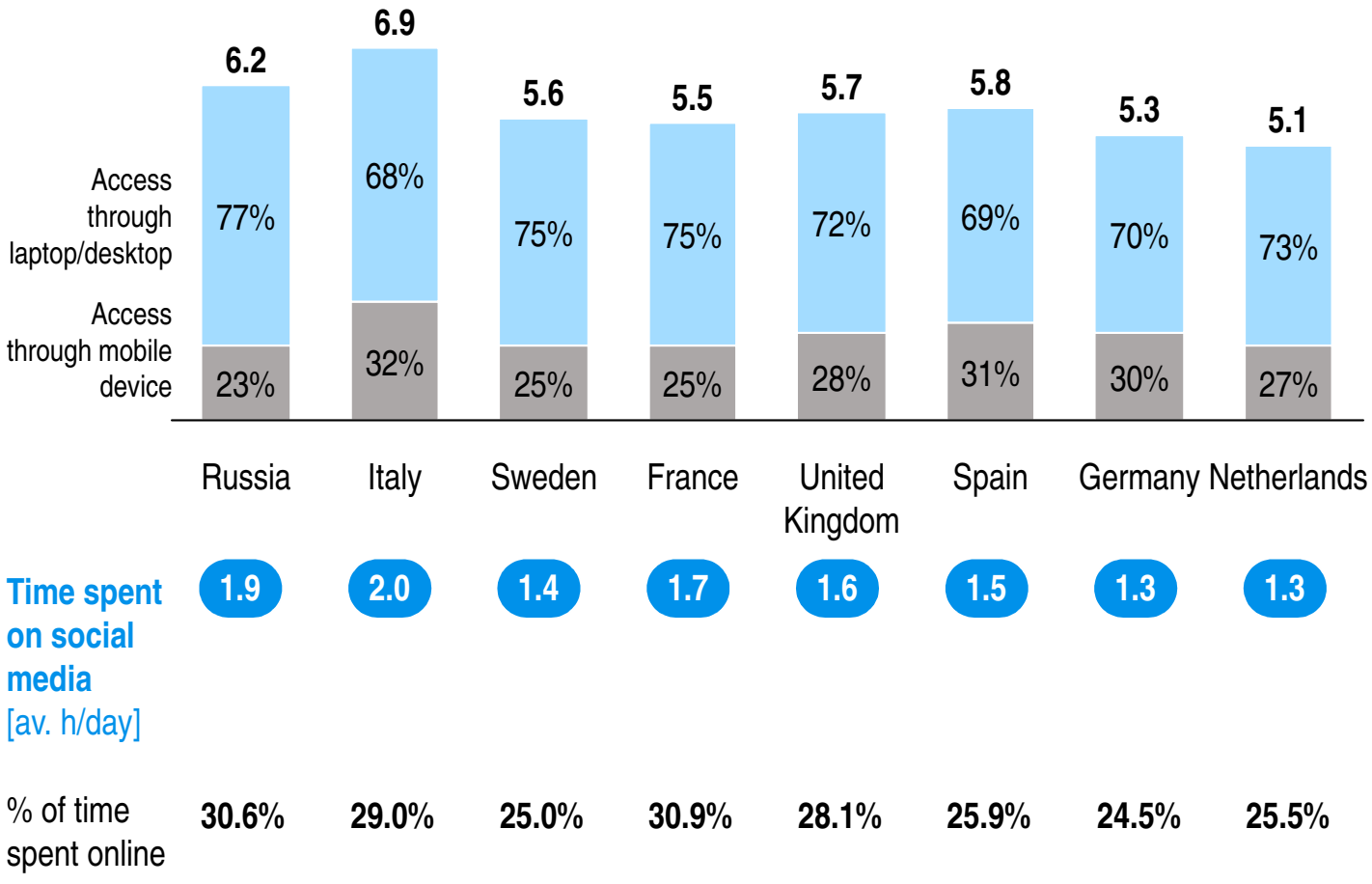
European users spend 25% to 30% of their time online on Social media

Time spent on the internet by internet users [av. # of hours / day; Feb. 2014]



Zoom on social media sites

40% of European users are using a social media (vs. 26% globally) ,

26% on mobile devices

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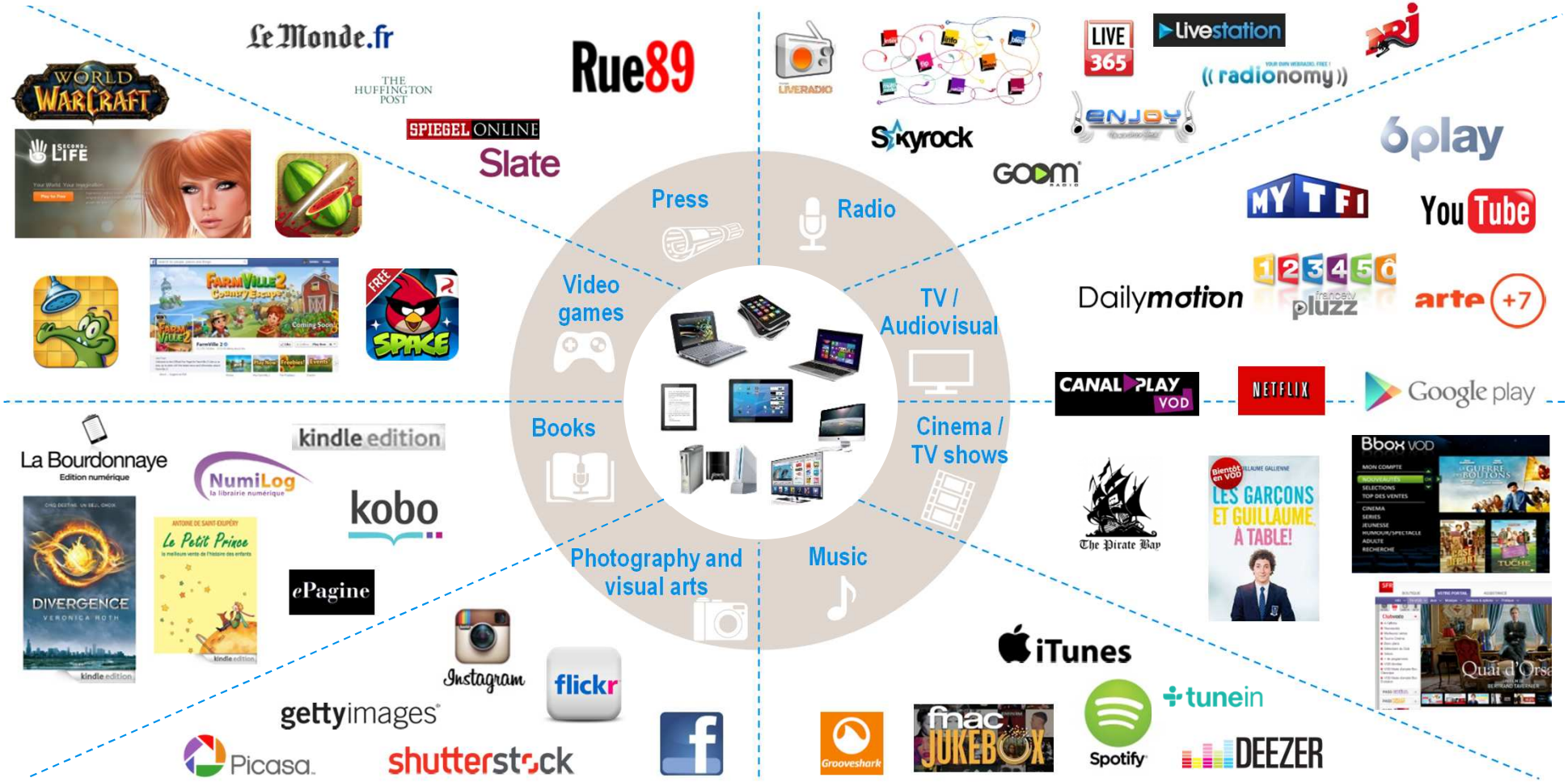
Source: WeAreSocial.sg, Roland Berger analysis

Roland Berger Strategy Consultants

As a consequence, cultural content offer available through connected usages is now particularly abundant

Cultural content offer panel available from a connected device



Source: Press reviews, Roland Berger analysis

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Beyond Social Media or Video, customers have massively embraced new consumption, communication and interaction patterns

The Internet in Real Time – What happens during 200 seconds - 2015

Source: Digital Synopsis, Roland Berger analysis

Roland Berger Strategy Consultants

Along with content proliferation, the value chain has been disrupted, especially regarding distribution and storage

Cultural content value chain evolution

Before

Distribution:

> Mostly physical outlets, physical copies, or
> Broadcasted content (content in continuous flow, 1-to-many)

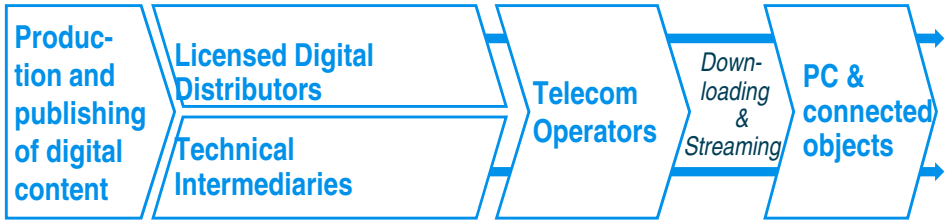
> High level of control of distributed content by right holders (count, coverage, …)

Storage and copy:

> CD
> VCR tapes
> DVD
> Hard disks
> USB drivers, …

> Relative visibility on usages
> Limited copying and sharing capabilities
> Relative visibility on copy

Now



Distribution:

> Content aggregators
> On-demand content from new distributors
> Illegal websites
> …
➔ Mostly immaterial distribution

> Limited control of distributed and shared content
  – Diffuse content distribution
  – IP (1 to 1) content sharing

Storage and copy:

> Cloudification of content storage
> Easy storage, copy and sharing

> No visibility on content usage
> No visibility on volume and type of content stored

FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

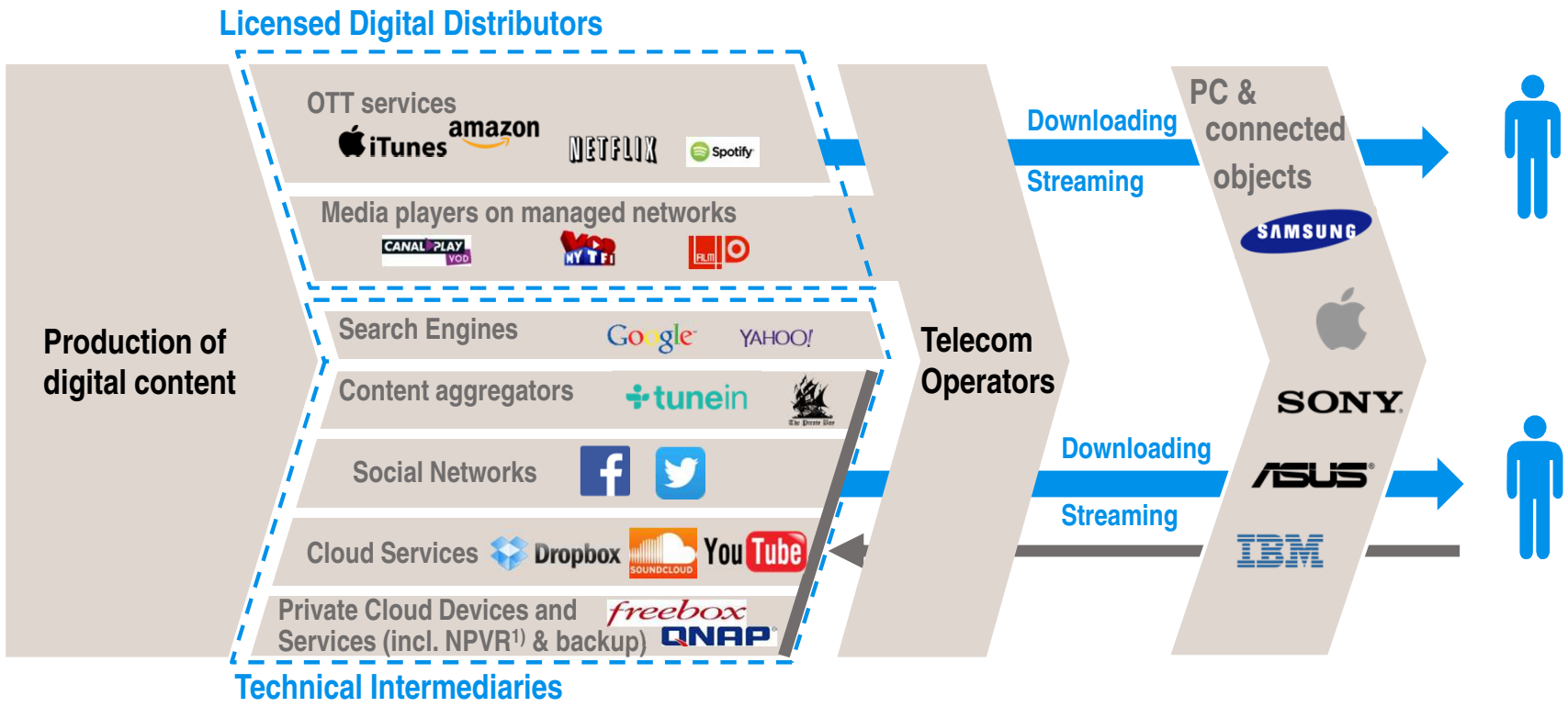
Hence, new Technical Intermediaries and Licensed Digital Distributors have entered the playground, impacting industry's value sharing

Evolution of the value chain of cultural content exploitation

Past: Stored Usage

Production (physical and digital) → **Publishing** (physical and digital) → **Distribution** (physical and digital) → **Outlet** (physical or e-commerce) → **Storage and Copy**

Present: Connected Usage



Flow of digital content

Storage and Sharing

1) Network Private Video Recorder

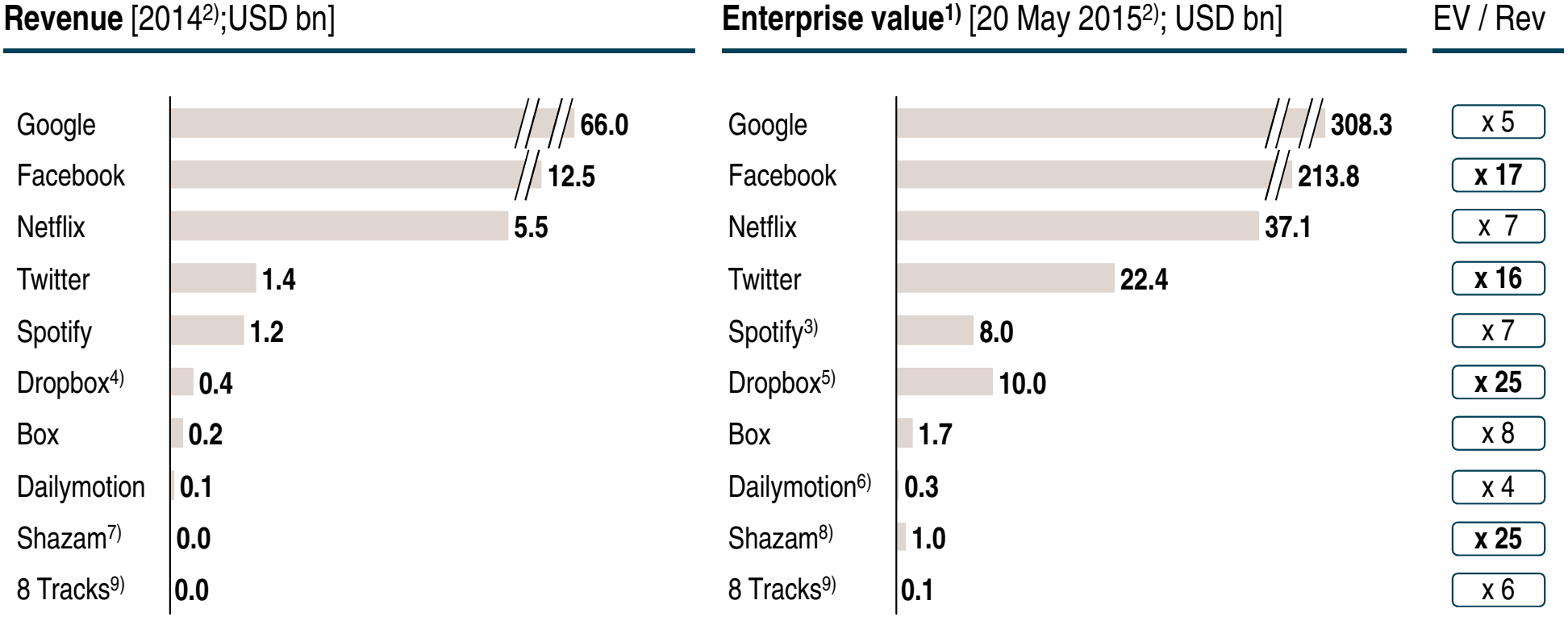
Source: Roland Berger analysis

FINAL VERSION

Roland Berger Strategy Consultants

Main players may benefit from very high valuations, sometime despite lack of revenue, due to oligopolistic situations

Largest players – Revenue and Enterprise value



1) Company valuation or Market Capitalization minus Cash
2) Otherwise stated
3) USD 350 m allegedly raised in May 2015 valuing Spotify at USD 8 bn (CNBC)
4) Analyst estimates
5) USD 250 m raised in January 2014 valuing Dropbox at USD 10 bn
6) Vivendi rumored to acquire 80% stake for EUR 17 m implying EUR 265 m valuation
7) 2013
8) USD 30 m raised in January 2015 valuing Shazam at USD 1 bn
9) Estimate

Source: Infinancials, press, Roland Berger analysis

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Technical intermediaries as well as licensed content distributors cover a wide range of players and models

Mapping of major intermediaries in the digital ecosystem

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Digital distributors

Technical intermediaries

Licensed digital content distributors

OTT services: iTunes, amazon, Google play, NETFLIX, blendle, Spotify, fnac

Media players on managed networks: CANAL PLAY VOD, MY TF1, FILM!

Search Engines

Search engines: YAHOO!, bing, Google, Qwant, DuckDuckGo

Content Aggregators

Publisher-based content interface: tunein, iHeart RADIO

Redirection platforms: 8tracks, THE HYPE MACHINE, Can I Stream.it?, bop

P2P portals and Redirection platforms: FULL STREAM, PPSTREAM, popcorntime, KICKASS Torrents, The Pirate Bay

Social Networks

Personal networks / Social media: facebook, twitter, Pinterest, Instagram, flickr, +8

Blog publishing platforms: tumblr., Skyrock.com, Blogger

Professional networks: viadeo, LinkedIn

Cloud Services

Lockers: Dropbox, OneDrive, amazon cloud drive, iCloud, box, SPIDEROAK, Google Drive

Public video/ audio platforms: YouTube, Dailymotion, metacafe, vimeo, SOUNDCLOUD, veoh, BREAK

Rip-based Public video/ audio platforms: PUREVID, Grooveshark

Private Cloud

> Services

> Devices / Backup based

Cloud player services: iTunes Match, amazon Prime music, Google Play Music

nPVR (nDVR, RS-DVR): kpn, Telefónica, belgacom, FASTWEB, telecable

ISP NAS DVR: freebox

Pure back-up services: CARBONITE, CRASHPLAN, Jungle Disk, symform

NAS: Synology, QNAP, HITACHI Inspire the Next, Thecus

Scope of the project | To be benchmarked | Sites frequently targeted in piracy matters | Out of scope

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Categories in the value chain of cultural content exploitation – Glossary

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Licensed content distributors	
> OTT services	> Digital content rental/ purchase services operated by OTT players (streamed or downloaded)
> Managed networks	> Digital video content rental/ purchase services operated by TV groups and networks (TV VoD platforms) (streaming-based)
Technical intermediaries	
Search Engines	> Cloud-based solutions designed to search on the internet through indexing of all sources and redirecting users
Content aggregators	
> Publisher-based content interface	> Indexing and streaming service of publication-based content i/ nterface for online content (radio networks, radio stations, TV, …)
> Redirection platforms	> Indexing service of video/ audio content from public cloud patforms and services
> P2P portals and Redirection platforms	> Indexation services of peer to peer content sharing (each peer is both user and host) and indexing service of video/audio content,
Social Networks	> Internet-based interactive applications allowing users to create, share or exchange all types of content (incl. UGC[1)] as well as cultural content)
Cloud Services	
> Lockers	> Hosting services allowing users to upload personal content to a cloud so that it may be accessed or shared from multiple devices
> Public video/ audio platforms	> Online content distribution services based on content posted by owners (online/streaming based)
> Rip-based public video/ audio platforms	> Online content distribution services based on content mostly ripped from other sources
Private Cloud	
> Cloud player services	> Personal cloud-based music storage and streaming services available for personal or shared usage
> nPVR (nDVR, RS-DVR)	> TV content recording services accessible from multiple devices, stored on operators servers (nPVR) or on a NAS provided by the operators (NAS based DVR)
> Devices / Backup based	> File computer data storage server connected to a computer network (NAS) / online NAS back-up services

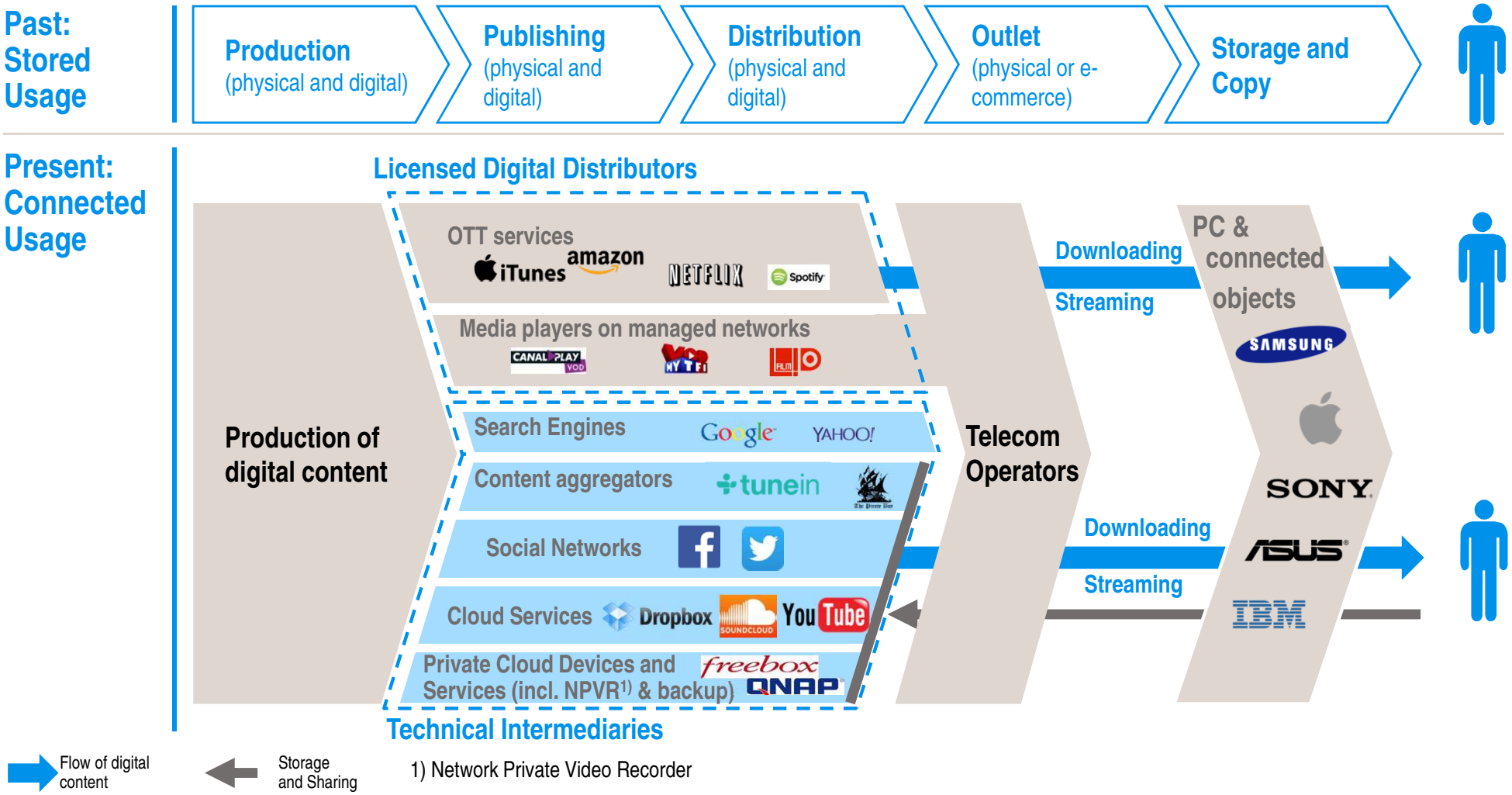
1) User Generated Content

Source: Roland Berger analysis

Roland Berger Strategy Consultants

The study will therefore focus on Technical Intermediaries which do not contribute to compensation mechanisms to date

Evolution of the value chain of cultural content exploitation – Examples of players



1) Network Private Video Recorder

Source: Roland Berger analysis

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Roland Berger Strategy Consultants

OTT players compete with traditional content distributors and managed networks with an IP-based on-demand content offer to their customers

Licensed Digital Content Distributors: OTT services

1 Who are they?

> Digital content rental/ purchase services operated by OTT players (streamed or downloaded)

> **Subscription-based**

Spotify NETFLIX DEEZER

> **On-demand services**

amazon Google play fnac iTunes imineo

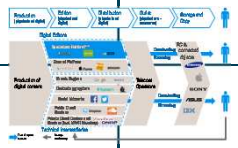
> Spotify has raised USD 538 m since creation and paid ~USD 2 bn in royalties over 2011-2014

> Netflix content costs amounted to USD 2,776 m in 2014

2 What kind of relationship with other players?

Agreements with beneficiaries ?	Inclusion in scope
✓	✗ 1)

> Display cultural content in the frame of agreement with right holders



> OTT players generate revenue through a **freemium model** combining:
- a **subscription-based paying offer**
- an **advertising-base free offer**

> Hence, revenue is mainly driven by:
- **# of users** and **usage levels**
- **available inventory** and **valuation** of inventory

> **Range of content availability** and **uniqueness** directly impact customer perception on the offer and their willingness to consume more content

> **Main legal rental / purchase services for cultural content**, streamed or downloaded to the customer's device, in the frame of an **agreement** with the right **holders**

> Positioned as the **reference legal channel** for online **cultural content** distribution and therefore represent a **relevant benchmark** point

3 How do they generate revenue?

4 Why are they important?

1) For benchmark purpose only

Source: Netflix, Spotify, press, Roland Berger analysis

Detailed analysis in the study

FINAL VERSION

Roland Berger Strategy Consultants

OTT players provide Apps and websites for direct content consumption

Licensed Digital Content Distributors: OTT services

Spotify

> Possibility to share a link on social media, redirecting to Spotify

Netflix

> Redirection to Netflix exiting from redirection platforms (ex: Can I Stream It)

FINAL VERSION

Source: Netflix, Spotify, Roland Berger analysis

Roland Berger Strategy Consultants

Search engines are driving most of their search revenue from sponsored links and benefit from indexing cultural content at marginal cost

Technical intermediaries – Search engines

1 Who are they?

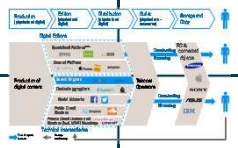
> Cloud-based solutions designed to search on the internet through indexing of all sources and redirecting users

> Google has a ~96% market share in Europe with ~EUR 15.5 bn in revenue (Google Search)

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
✓ [1] ✗	✓

> May **benefit from indexing cultural content** (traffic, exhaustiveness, …) **at marginal cost**



3 How do they generate revenue?

> Search engines mainly generate revenue through **sponsored links**

> Hence, revenue is mainly driven by **available inventory** and **valuation** of inventory

> Key success factors for revenue generation include:
- **Relevance** and **thoroughness**
- Customer **stickiness** and customer **targeting**
- **Ubiquity** for advertisers

4 Why are they important?

> **Directing towards cultural content** published:
- by right-holders (e.g. blogs)
- on cloud platforms (e.g. YouTube)
- elsewhere (e.g. Facebook, but also illegal platforms

> **Internet navigation main tool**

> **Frequent entry point** to any destination on the web

FINAL VERSION

1) Google European fund for press: in April 2015 Google has pledged to give EUR 150 m to European news publishers and journalism-focused start-ups over the next three years

Source: Google, press, Roland Berger analysis

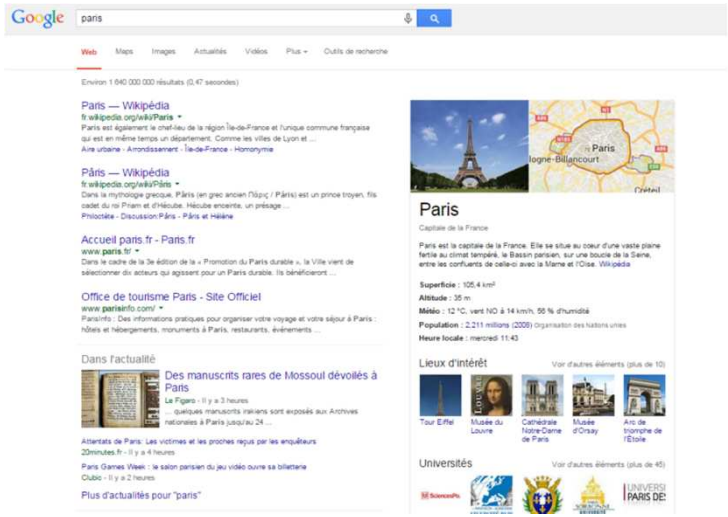
Detailed analysis in the study

Roland Berger Strategy Consultants

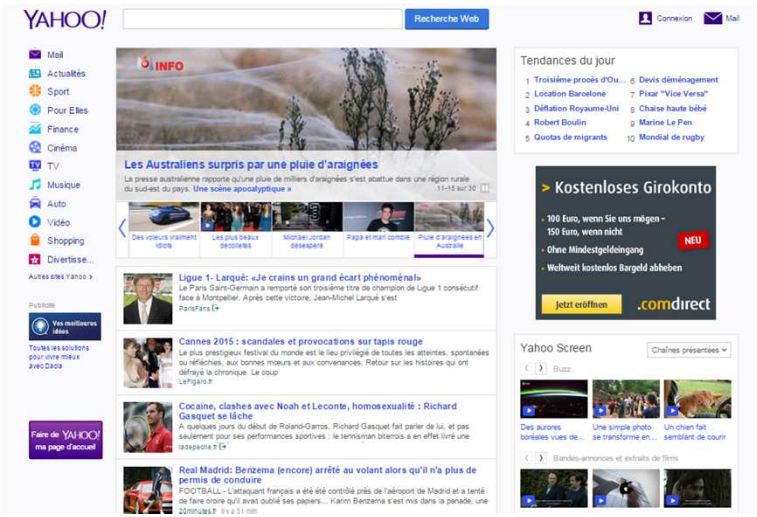
Search engines are driving most of their search revenue from sponsored links and display advertising but do not host content

Technical intermediaries – Search engines

Google Search



Yahoo!



- Revenue model is primarily based on:
  - **Sponsored links**
  - Display advertising
- No, or very limited (snippets, thumbnails) "on-site" content, but linking to almost all available content

Source: Google, Yahoo!, Roland Berger analysis

Roland Berger Strategy Consultants

Publisher-based content aggregators offer indexing and streaming of cultural content without paying compensation to right holders

Technical intermediaries – Content aggregators – Publisher-based content interface

FINAL VERSION

1 Who are they?

> Indexing and streaming service of publication-based content interface online (radio networks, radio stations, TV, …)

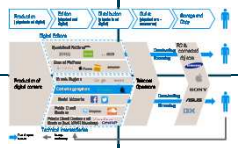
tunein iHeart RADIO

> With over 100,000 real radio stations and 4 million on-demand programs and podcasts available in ~230 countries, Tunein has become the leading radio hub for customers

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
~	✓

> **Benefit from cultural content** hosted on legal platforms **without paying any compensation to right holders**



3 How do they generate revenue?

> Publisher-based content interfaces typically generate revenue through **display ads** and **commissions** (potentially paying apps)
> Hence, revenue is mainly driven by **available inventory** and **valuation** of inventory
> Key success factors for revenue generation include:
- **Breadth** of **content range**
- **Ads format** and **fill rate**
- **Usage quality** and **customer stickiness**

4 Why are they important?

> Websites **revenue model** directly linked to cultural content **distribution: indexation of** musical and video **content from hosting websites or editors website**

→ Become very substantial **content** and **traffic hubs in place of traditional content editors (eg. radio)**

Source: Tunein, press, Roland Berger analysis

Detailed analysis in the study

Roland Berger Strategy Consultants

Redirection platforms index video and audio content hosted on public cloud platforms

Technical intermediaries – Content aggregators – Redirection platforms

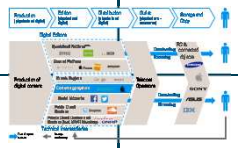
1 Who are they?

> Indexing service of video/ audio content from public cloud services with commitment to enter a relationship with right owners

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
✗	✓

> **Benefit from cultural content** hosted on legal platforms **without paying compensation to right holders**



3 How do they generate revenue?

> Redirection platforms typically generate revenue through **display ads** and **commissions**

> Hence, revenue is mainly driven by **available inventory** and **valuation** of inventory

> Key success factors for revenue generation include:
- **Breadth** of **content range**
- **Ads format** and **fill rate**
- **Usage quality** and **customer stickiness**

4 Why are they important?

> Websites **revenue model** directly linked to cultural content **distribution: indexation of** musical and video **content from hosting websites or editors website**

> Could become crucial intermediary players centralizing much user traffic thanks to the richness and diversity of the content they have aggregated on their platforms

FINAL VERSION

Source: Press, Roland Berger analysis

Roland Berger Strategy Consultants

P2P portals and redirection platforms index mostly ripped cultural content with no compensation to right holders

Technical intermediaries – Content aggregators – P2P & Redirection platforms

1 Who are they?

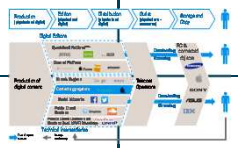
> Indexation services of peer-to-peer content sharing (each peer is both user and host) and indexing service of video/audio content with no commitment to enter a relationship with right owners

> In 2014, P2P portals and redirection platforms generated **~EUR 23 m in revenue** with an **operating margin of ~85% in 2013**

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
✗	✓

> **Benefit from cultural content** shared **illegally**, with **no compensation** to right holders



3 How do they generate revenue?

> Publisher-based content interfaces typically generate revenue through **display ads**, **sponsored links** and **specific actions**

> Hence, revenue is mainly driven by **available inventory** and **valuation** of inventory

> Key success factors for revenue generation include:
- **Breadth** of **content range**
- **Ads format** and **fill rate**
- **Usage quality** and **customer stickiness**

4 Why are they important?

> Websites directly linked to cultural content **distribution: indexation of** musical and video **content from hosting websites or editors website**

> P2P Portals and redirection platforms may be responsible for a **substantial shortfall** for the other players in the cultural content industry and right holders (~EUR 1,900 m additional annual rights to be gathered in the event of the full legalization of all piracy usages)

Detailed analysis in the study; Due to the very large number of players with numerous specificities, this category was considered as a whole when analyzing its revenue model

Source: Press, Digital Citizens Piracy report, Roland Berger analysis

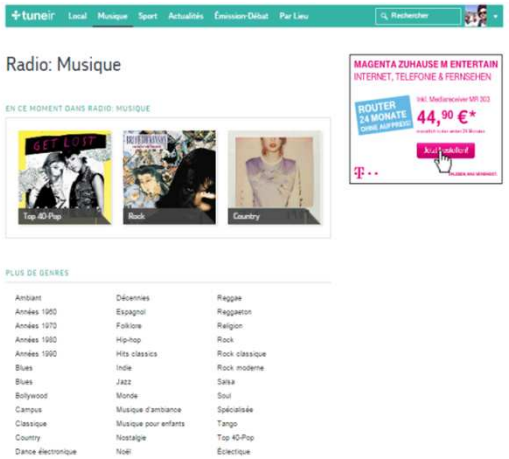
FINAL VERSION

Roland Berger Strategy Consultants

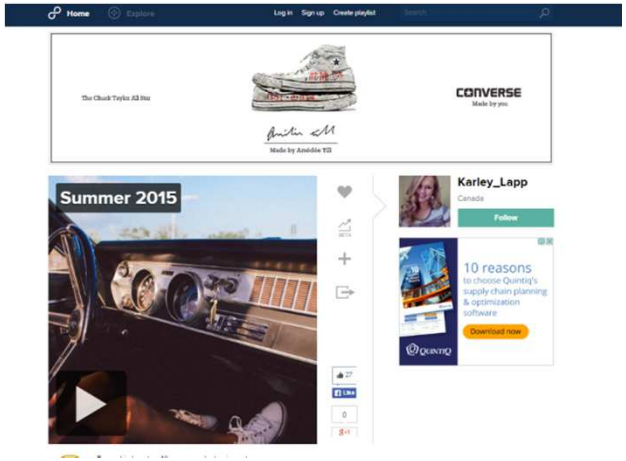
Content aggregators – Publisher-based, redirection platforms or P2P portals – mostly generate revenue through advertising and commissions

Technical intermediaries – Content aggregators – Redirection platforms

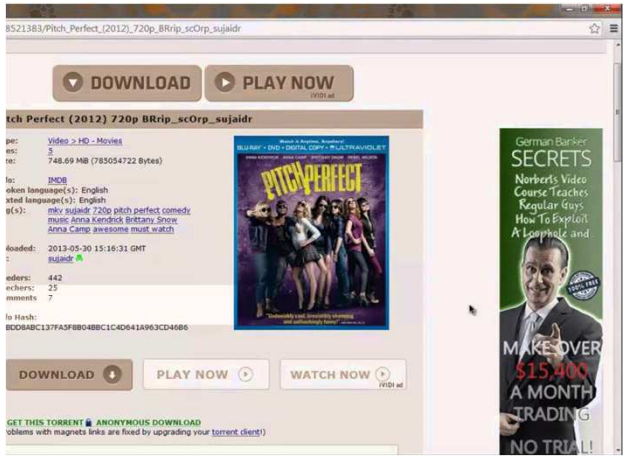
Published-based content interface
Tunein



Redirection platform
8 Tracks



P2P Portal
Pirate Bay



> Revenue model is primarily based on:
  - **Display advertising**
  - **Commissions**

Source: Tunein, 8 Tracks, Pirate Bay, Roland Berger analysis

Roland Berger Strategy Consultants

Social networks as well generate most of their revenue from advertising and sponsored links, benefiting from shared cultural content

Technical intermediaries – Social networks

1 Who are they?

> Internet-based interactive applications enabling users to create, share or exchange all types of content (incl. UGC[1]) as well as cultural content)

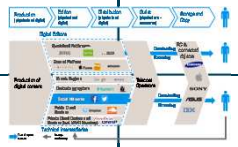
facebook, twitter, Pinterest, Instagram, studiVZ, LinkedIn, tumblr., viadeo, flickr, Skyrock, Blogger

> On average, Facebook generates ~1 billion search requests WW
> Cultural content is estimated at ~10% of total content published on Facebook

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
✗	✓ 2)

> May benefit from casting **cultural content shared** by users often at no cost



> Social networks typically generate revenue through **native advertising**, **display ads** and **sponsored links**

> Revenue is mainly driven by **available inventory** and **valuation** of inventory

> Key success factors for revenue generation include:
- **Virality (Tribe effect)** and **customer stickiness**
- **Customer targeting**, **ubiquity for advertisers**, **ads format** and **fill rate**

3 How do they generate revenue?

> By gathering **all types of user-generated content as well as embedded content from public-cloud companies**, **social networks** have proved to be moving constantly at the **centre of most customers' online usage**

> **The potential for growth remains important** as more and more players consider social networks as efficient media to reach the largest audience

4 Why are they important?

1) User Generated Content 2) Professional networks out of scope since their revenue is not directly linked to cultural content

Source: Facebook, press, Roland Berger analysis

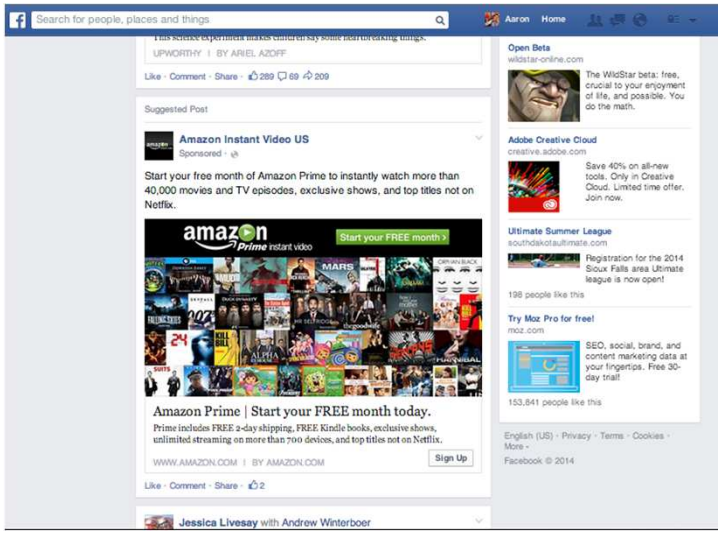
Detailed analysis in the study

Roland Berger Strategy Consultants

Social networks generate most of their revenue from display and native advertising; content may be hosted or played on-site

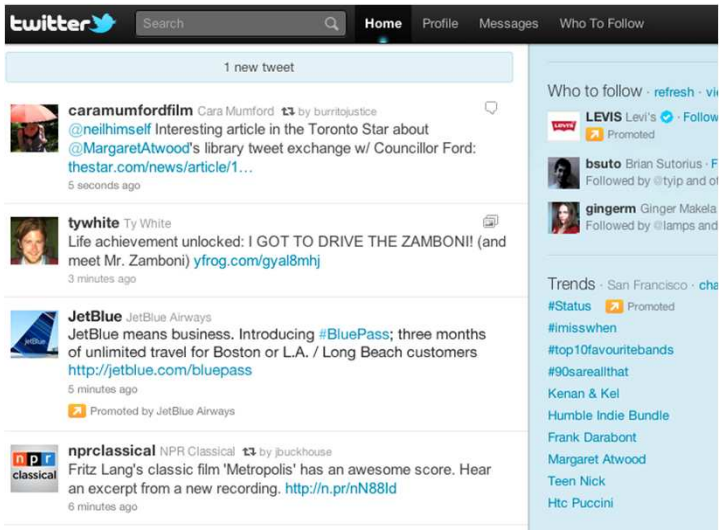
Technical intermediaries – Social networks

Facebook



- Revenue model is primarily based on **advertising**:
  - **Native**
  - **Display**
- **On-site** / "in-app" **player** for some content

Twitter



- Revenue model is primarily based on **advertising** related to:
  - **Promoted** tweets
  - Promoted accounts
  - Promoted trends
- Content may be played on a **private browser**

Source: Facebook, Twitter, Roland Berger analysis

Roland Berger Strategy Consultants

Distant lockers usage has recently soared thanks to internet / IT giants' cloud services development

Technical intermediaries –Cloud Services – Lockers

1 Who are they?

> **Personal lockers**
  – Hosting services allowing users to upload personal content to a cloud so that it may be accessed or shared from multiple devices

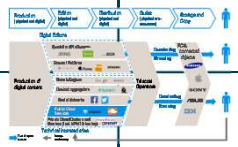
box iCloud Dropbox amazon cloud drive Google Drive OneDrive SUGARSYNC

> On average, 10% of Box customers pay a subscription
> Cultural content accounts for less than 5% of Box premium storage

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
✗	✓

> May benefit from **cultural content stored and shared online** by their subscribers



> Various storage capacity allowing the user to **store any media content** (personal and public content) **regardless of content type**

> By making content available from any device, enhance accumulation on the cloud of cultural content at no cost

3 How do they generate revenue?

> Personal lockers typically generate revenue through a **freemium model** combining a **subscription-based paying offer depending on storage capacity level and** a **free offer**

> Revenue is mainly driven by **#users** and **usage levels**

> Key success factors for revenue generation include:
  – **Usage quality**
  – **Large size content storage/ sharing need**
  – **Price competitiveness**

4 Why are they important?

FINAL VERSION

Source: Box, Press, Roland Berger analysis

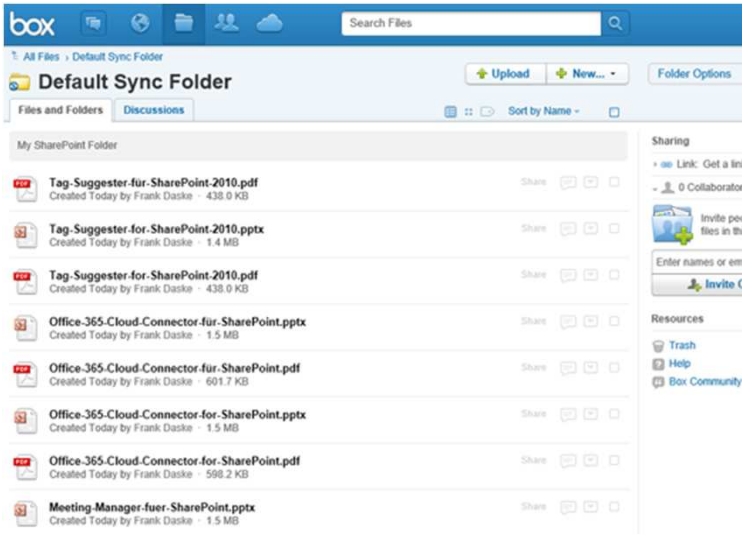
Detailed analysis in the study

Roland Berger Strategy Consultants

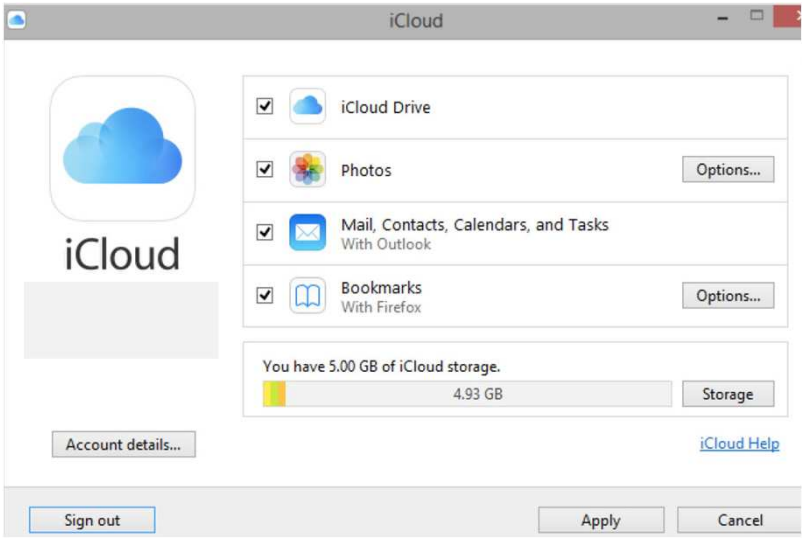
Lockers rely on a freemium model based on desired storage capacity; they are pure storage services, without embedded players

Technical intermediaries –Cloud Services – Lockers

Box



iCloud



> Revenue model is primarily based on a freemium model and **subscriptions**
  – Premium users who want to extend their online storage capacity

FINAL VERSION

Source: Box, iCloud, Roland Berger analysis

Roland Berger Strategy Consultants

Public Video/Audio Platforms give streamed access – mostly free, ads paid – to either UGC or cultural content to their customers

Technical intermediaries –Cloud Services – Public video/ audio platforms

1 Who are they?

> Online content distribution services based on content created by users and copyrighted content (online/streaming based)

> YouTube reported ~1bn users in 2014 and has paid over USD 1bn to right holders since 2007

> Both YouTube and Soundcloud display ~20% of cultural content (i.e. non pure-UGC)

> Public video/audio platforms typically generate revenue through **display advertising**

> Revenue is mainly driven by **available inventory** and **valuation** of inventory

> Key success factors for revenue generation include:
- **# free users (audience)**
- **Content range thoroughness and quality**
- **Customer targeting**, **ubiquity for advertisers** and **ads relevance**
- **Usage quality**

2 What kind of relationships with other players?

Agreements with right holders?	Inclusion in scope?
✗ ✓	✓

> Despite paying revenue share to some right holders, public video/audio platforms host a **significant share** of **cultural content on which they do not pay compensation to right holders**

> Represent the **leading video and audio services** alongside with OTT services

3 How do they generate revenue?

4 Why are they important?

FINAL VERSION

Source: YouTube, Billboard, Soundcloud's management interview reports, Roland Berger analysis

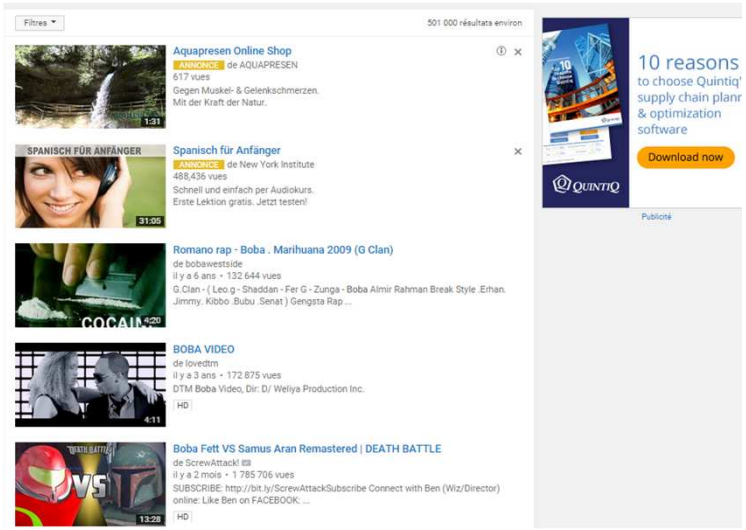
Detailed analysis in the study

Roland Berger Strategy Consultants

Public Video/Audio Platforms are player-based services

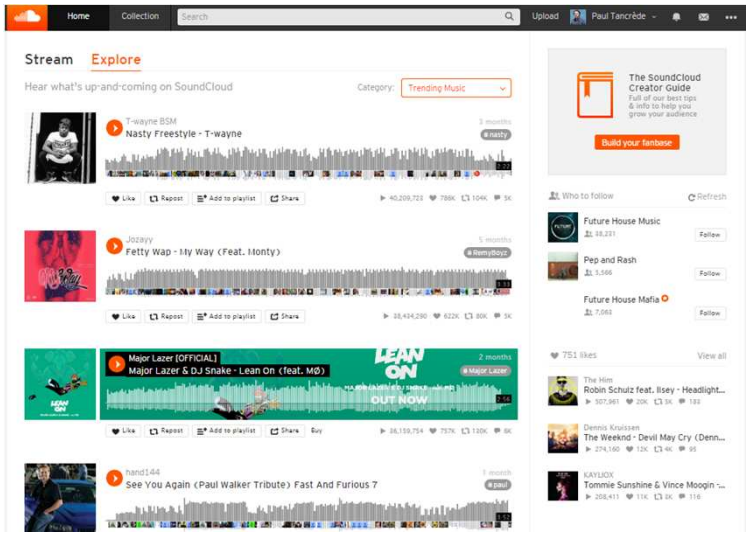
Technical intermediaries –Cloud Services – Public video/ audio platforms

YouTube



> Revenue model is primarily based on **advertising**:
  - **In-stream**
  - **In-display**

Soundcloud



> Revenue model is primarily based on **subscriptions**:
  - **Premium users** who want to **upload** their own musical content (historically promotional purpose)

FINAL VERSION

Source: YouTube, Soundcloud, Roland Berger analysis

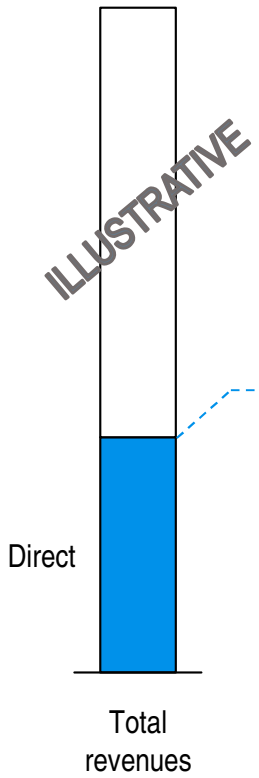
Roland Berger Strategy Consultants

The overall EU value gap yields from a bottom-up and segmented approach

Methodology

1. Analysis of the Value Chain and identification of key players per typology

2. Assessment for main players, of the share of revenue directly and indirectly generated / due to cultural content



Direct : revenue generated from the direct monetization and direct commerce of cultural content or related advertising inventory

3. Extrapolation of the results to build the European picture

> **Extrapolate** data either for an **industry** (eg music) or to a given **typology** of players (eg search engine)

> **Example** : Google has 96% of market share (# users in EU, 2014), which easily provides a reliable picture of search engines

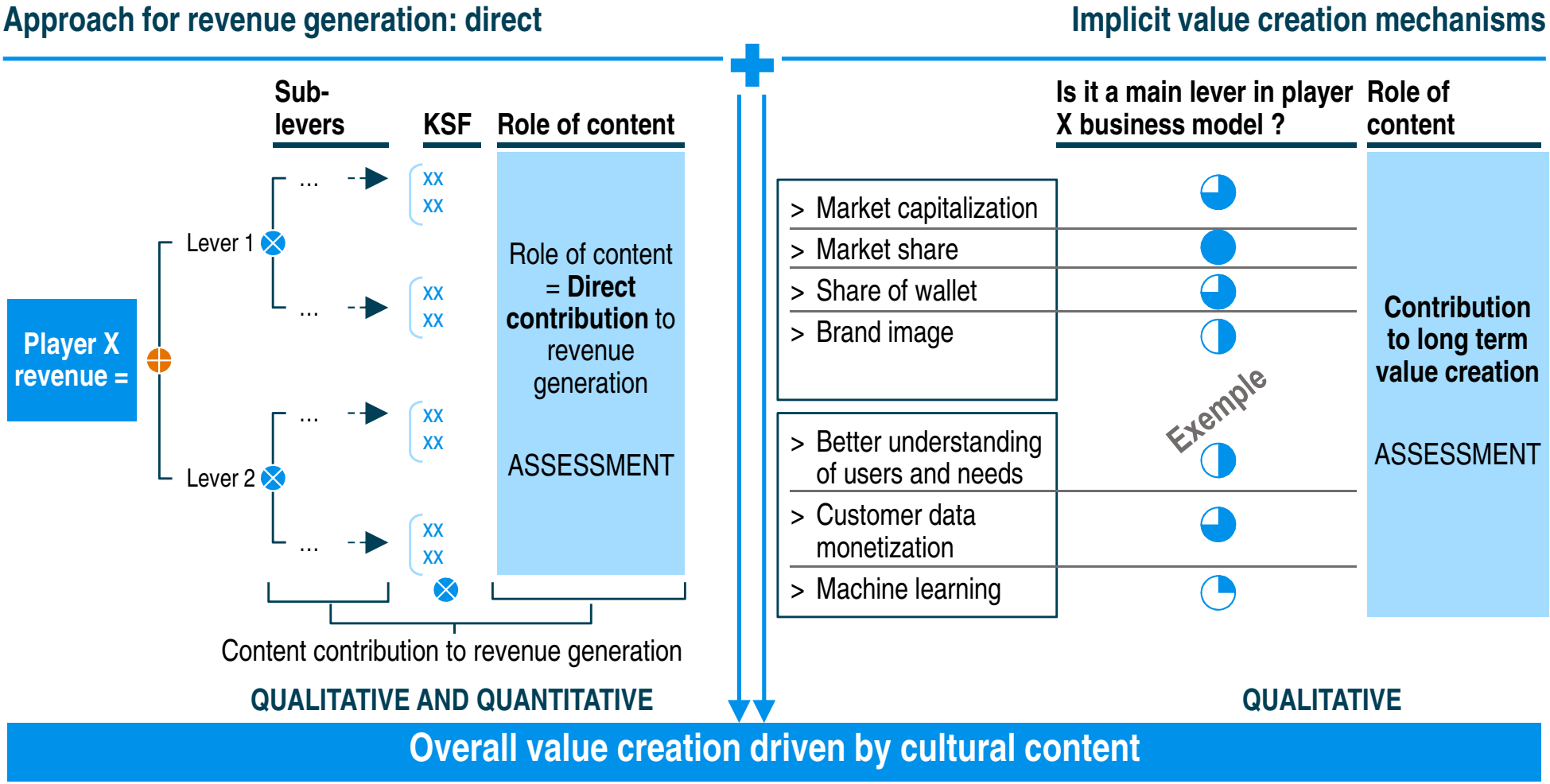
FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Content direct contribution to revenue generation can be assessed as well as implicit contribution to value creation

Content direct impact on value creation



FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Key success factors of technical intermediaries – Glossary

Key success factor	Definition
Usage quality	Quality of the customer experience on the players' website/application (Ergonomics, streaming speed, …)
Content range	Breath and depth of the range of cultural content proposed
Content quality	Quality of the range of content offered
Customer targeting	Ability to enhance customer monetization through a better understanding of its needs
Customer stickiness	Loyalty / likeliness of the consumer to use a service on a regular basis
Price competitiveness	Competitiveness of the offer's price compared to its competitors
Ubiquity for advertisers	Ability for an advertiser to be present for multiple targeted customers, on multiple website and devices at the same time
Ads relevance	Relevance of an ad in the eye of the targeted customer, based on its habits and tastes
Virality (Tribe effect)	Propensity of an offer to generate strong adherence from consumers

Key success factor	Definition
Ads format	Size and location of ads allowing players to monetize a large inventory
Fill rate	Measure of inventory effectiveness at meeting demand
Competition (RTB)	Existence of a competitive environment (Real-time bidding for example) allowing the player to optimize the revenue of its advertising space
Large size content storage/ sharing need	Propensity of targeted consumers to necessitate a large size of content storage
Storage capacity	Cultural content storage capacity offered by a player to its subscribers in the frame of a free or paying service

Others	Definition
Freemium	Tiered service model, with an ad-supported free offer and a paying premium offer
KSF	Key Success Factor
KPI	Key Performance Indicator
CPC	Cot per Click (for ads)

FINAL VERSION

Source: Roland Berger analysis

Passive and declarative studies were conducted by specialized agencies in order to understand usages on Facebook and Google

Methodology for Cultural Contents usage identification in Usage Studies

	Market research company	Type	Process	Period
Search Engines Google	mediametrie // NetRatings + Sépage	Passive study	> Constitute a representative **panel** of users and **track** their search journeys > **Scrap** data from all clicked Web pages > Analyze data thanks to **Semantic Web** (after a Machine Learning phase) > Identify destinations	**France:** Week 4 - Week 8 of 2015 (**February 2015**) **Italy:** Week 9 - Week 13 of 2015 (**March 2015**)
Social Media facebook	Ipsos	Declarative study	> Draw up a **questionnaire** to address to Facebook's **Active users** > Collect **usage data** from the **panel** (Publish/Share, Open, Comment & Like) > Analyze results through **cross tabulations** > Identify actions and consumptions	**France:** Week 14 of 2015 (**March-April 2015**) **Italy:** Week 14 of 2015 (**June 2015**)

Source: Roland Berger

Roland Berger Strategy Consultants

4 usage types and 11 categories of cultural contents were identified

Definition of different usage types and categories of cultural contents

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	Usage types considered in surveys	Categories of cultural contents
Search Engines Google	> **Access:** digital works downloads and streaming > **E-commerce**: physical goods e-commerce and ticketing > **Social**: interactions via social media and forums > **Other**: encyclopedia and other information, illicit contents	✓ Press ✓ Books ✓ Music ✓ Live (incl. Music) ✓ Radio ✓ TV ✓ Cinema ✓ Video Games ✓ Visual Arts (incl. Architecture)
Social Media facebook.	> **All previous items** > For **Access** only: Digital works downloads and streaming, licit and illicit alike (the questionnaire did not distinguish between licit and illicit contents) > **4 types of actions** considered : – Open – Post/Share – Comment – Click on "Like" button	✓ All previous items ✓ Advertising ✓ Internet videos

Source: Roland Berger

Roland Berger Strategy Consultants

The share of Cultural Content in the activity of Google users has been measured via the automatic qualifications of a tailored algorithm

Passive Study Methodology on Search Engines

Google

Objectives	Details
1. Constitute a representative **panel** of users and **track** their search journeys: panels of 2 x 2,000 Search Engines users (FR/IT)	mediametrie // NetRatings nielsen
2. **Scrap** relevant data (title, text, media) from all clicked Web pages	**C. Grand**
3. Analyze data thanks to **Semantic Web** > **Gold Standard**: leverage human natural knowledge to qualify usage data: – 10 experts from different fields in France, 4 in Italy – Panel of 2 x 150 Search Engines users (FR/IT) – 5,955 lines of qualified data in France, 3,000 lines in Italy > **Machine Learning:** develop algorithms to match Gold Standard results (at the level of Cultural Contents) > **API (Application Programming Interface)**: apply the algorithms to a much larger sample of usage, towards Big Data…: 72,818 lines of qualified data in France, 141,537 in Italy	Sépage

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Source: Roland Berger

Roland Berger Strategy Consultants

A three-step method was implemented to determine the share of Cultural Content in the daily activity of Facebook's active users

Declarative Study Methodology on Social Media

facebook

Objectives	Details
1. Draw up the questionnaire > Determine the profile of "**active users**" and assess their proportion + Test the **questionnaire**	> **1 008 Online** interviews + **12 qualitative** interviews in **France**, **1,084 Online** interviews in **Italy**, of people representative of the population (aged from 16 to 75)
2. Collect data from the panel > Recruit at least **1 000 participants** corresponding to the profile and willing to complete the questionnaire	> **Active users** must connect to Facebook at least once during the week and make at least one action
3. Analyze the results > Recover participants' **daily log books** (Facebook activity reports) then compile and analyze it (cross-tabs)	> Out of the 1 000 recruited participants in **France**, **670** filled in their reports at least **once a week** and **370 every day** of the week > Out of the 2 000 recruited participants in **Italy**, **1,573** filled in their reports at least **once a week** and **1,120 every day** of the week

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Source: Roland Berger

Roland Berger
Strategy Consultants

Contents

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Roland Berger Strategy Consultants

Licensed digital content distributors are the reference channel for digital distribution - ~70% of gross revenue is spent on content

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> Licensed digital content distributors are of importance as they tend to stand as the **reference channel for content distribution**, being for example for music (Spotify) or video (Netflix)

> Licensed digital content distributors include both **pure online players** (Spotify) and players that successfully **achieved a digital transformation**, as illustrated by Netflix which historical activity (DVD rentals) accounts for less than 15% of revenue as of today

> Cultural content is therefore both the basis and the core of their Business Model and is a key factor to retain customers – **100% of their value and revenue are based on distributed cultural content**

> **Players are now strongly challenged** in the new environment, as illustrated by the current shake-up taking place between record companies, cultural content e-shops and rip-based content aggregators / content hosts (e.g. Grooveshark shutdown in may 2015)

> Value creation mechanism can differ from one player to other:

A Spotify – freemium model – Average royalty repayment of 70% of gross revenue

- 9% of revenue is generated by advertising to "free" users; those represent 2/3 of the customer base and have a negative average net revenue per user (ARPU, after royalties)
- 91% of revenue is generated by premium users fees; those represent 1/3 of the customer base and generate a net ARPU of ~42.7 EUR per year (after royalties)
- Overall, Spotify generates an average annual net revenue per user of 5.1 EUR (after royalties)[1)]

B Netflix – subscription-based model – Average content acquisition cost of 73% of gross revenue

- 100% of Netflix revenue is generated by subscriptions (DVD rental and video streaming)
- 86% of revenue is generated by video streaming, which is used by 89% of the customer base (gross ARPU of 62 EUR)
- Overall, the website generates an average annual net revenue per subscriber of 16.6 EUR per user

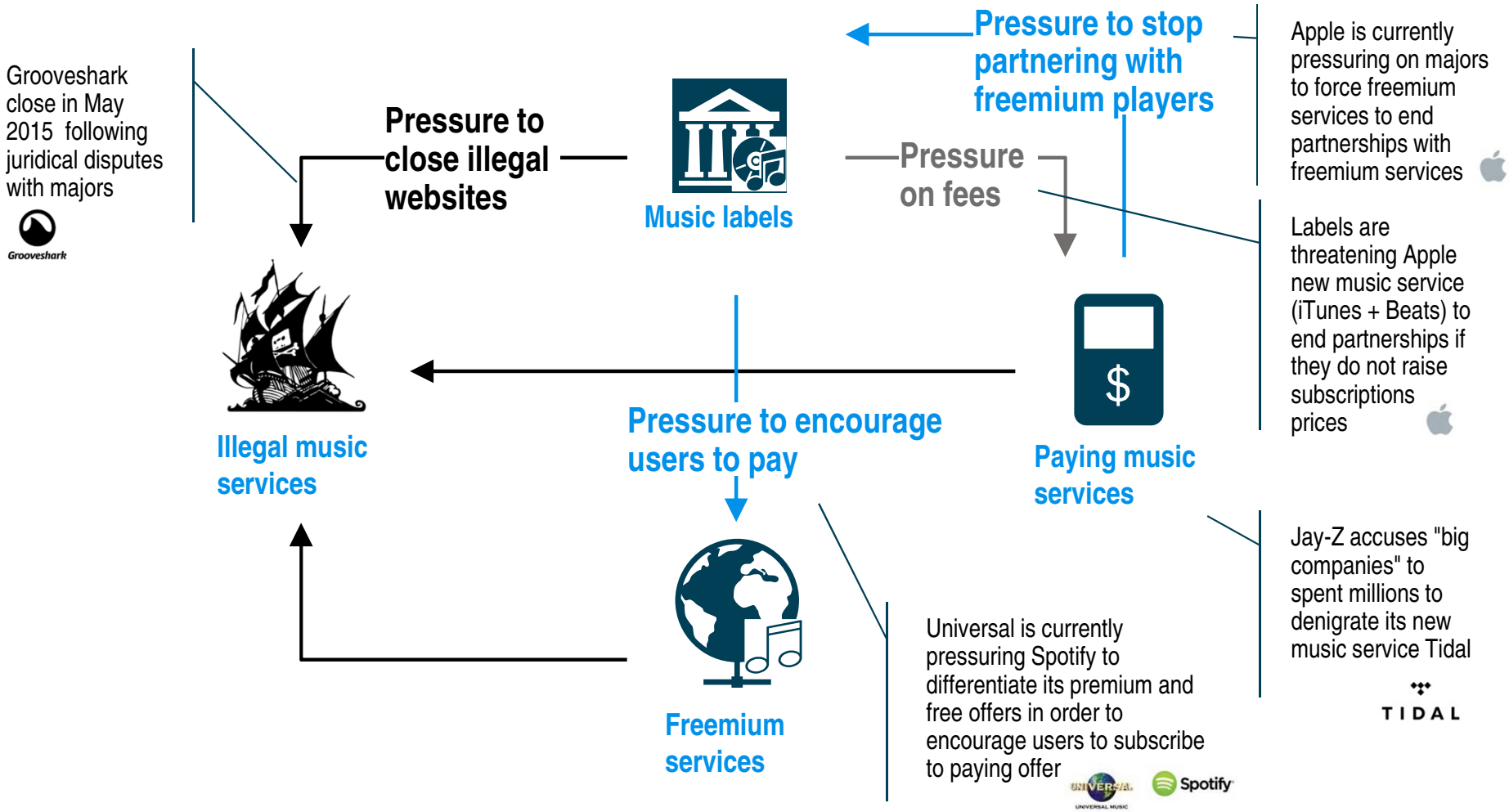
1) ***This figure is based on blended approach of free and paid streams. It is to be noted that the business model mainly relies on the subscription model, which is more likely to be the proxy when comparing with the completely free streaming services undertaken by the "technical intermediaries" analysed in this report***

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Players are now strongly challenged in the battle over music industry economics

Digital music ecosystem – Key stakes



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Source: Press, Roland Berger analysis

Roland Berger Strategy Consultants

Spotify and Netflix are benchmark as OTT content distributors due to their role model in commercial music and video digital streaming

Benchmarking rationales

A Spotify

- > Global **leader in music streaming** service
- > **Freemium model** combining ad-based and subscription-based revenue sources
- > **Agreements with right holders**
- > **Absence of pirated content**
- > **7 funding rounds since the creation of the company,** for a total amount of USD 538 m, new round in progress for USD 350 m

B NETFLIX

- > Global **leader in video streaming** service
- > Example of paradigm change management: switch from historical **video content physical rental to cloud-based video content streaming**
- > Exclusive **subscription-based revenue source**
- > **Absence of traffic-driven performance indicators** (no advertising)
- > **Absence of pirated content**
- > Pioneer of **original content production** as a content distribution pure-player (ex: House of cards)

Spotify and Netflix KPI can be used when necessary as proxies for similar services but "rip-based" free platforms

Source: Press release, Roland Berger analysis

Roland Berger Strategy Consultants

OTT players compete with traditional content distributors and managed networks with an IP-based on-demand content offer to their customers

Licensed digital content distributors description: OTT services

REFERENCE LEGAL CHANNEL FOR CULTURAL CONTENT STREAMING DISTRIBUTION

Who are they?

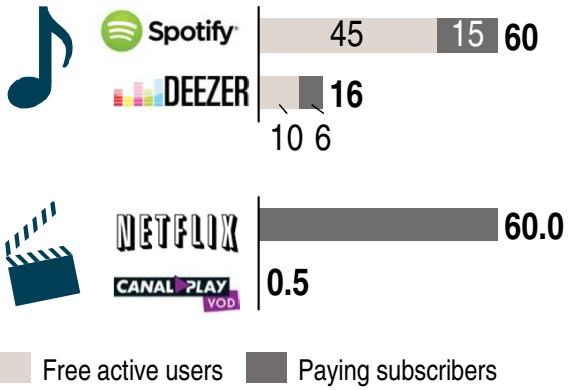
Subscription-based

Spotify
NETFLIX
DEEZER

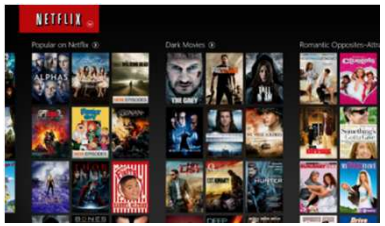
E-commerce

amazon
fnac
iTunes
Google play

Players in # of users [Global; millions; 2014]



Why are they important?



> **Main legal content rental / purchase services of cultural content**, streamed to the customer's device

> Cultural content displayed **in the frame of an agreement with right holders**

Opportunity to position themselves as the **reference legal channel** for **cultural content streaming distribution**

How do they generate revenue?

Subscription-based	E-commerce
Main revenue generation approach > Freemium model > Subscription-based paying offer > Advertising-base free offer	**Main revenue generation approach** > Content selling
Main revenue generation levers > # of users > Premium price > usage levels > Available inventory > Valuation of inventory	**Main revenue generation levers** > # of users > Average basket

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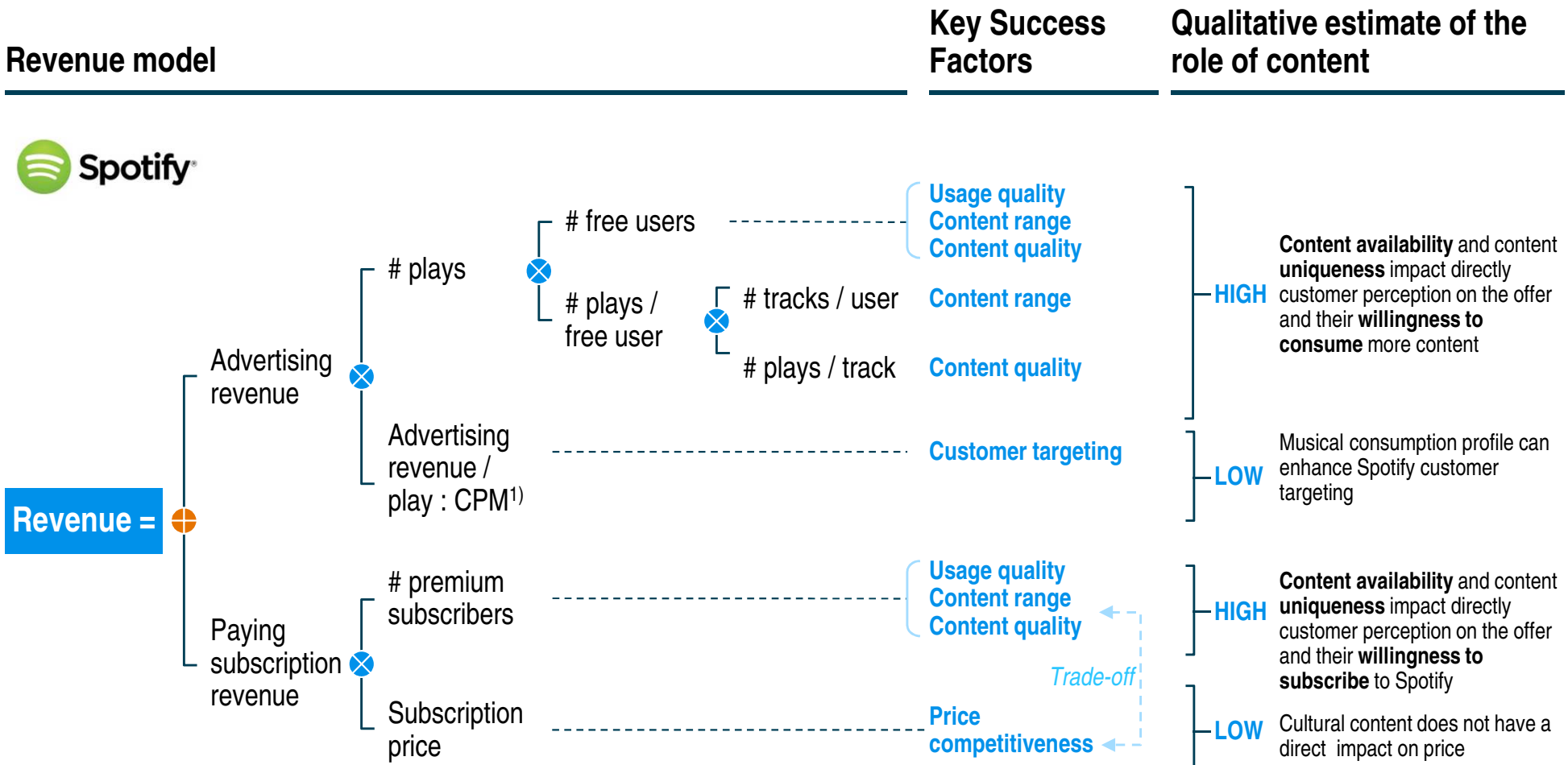
Source: Roland Berger analysis

Roland Berger Strategy Consultants

Spotify revenue model is based on both advertising and paying subscriptions

Benchmark – Licensed digital content distributors business model



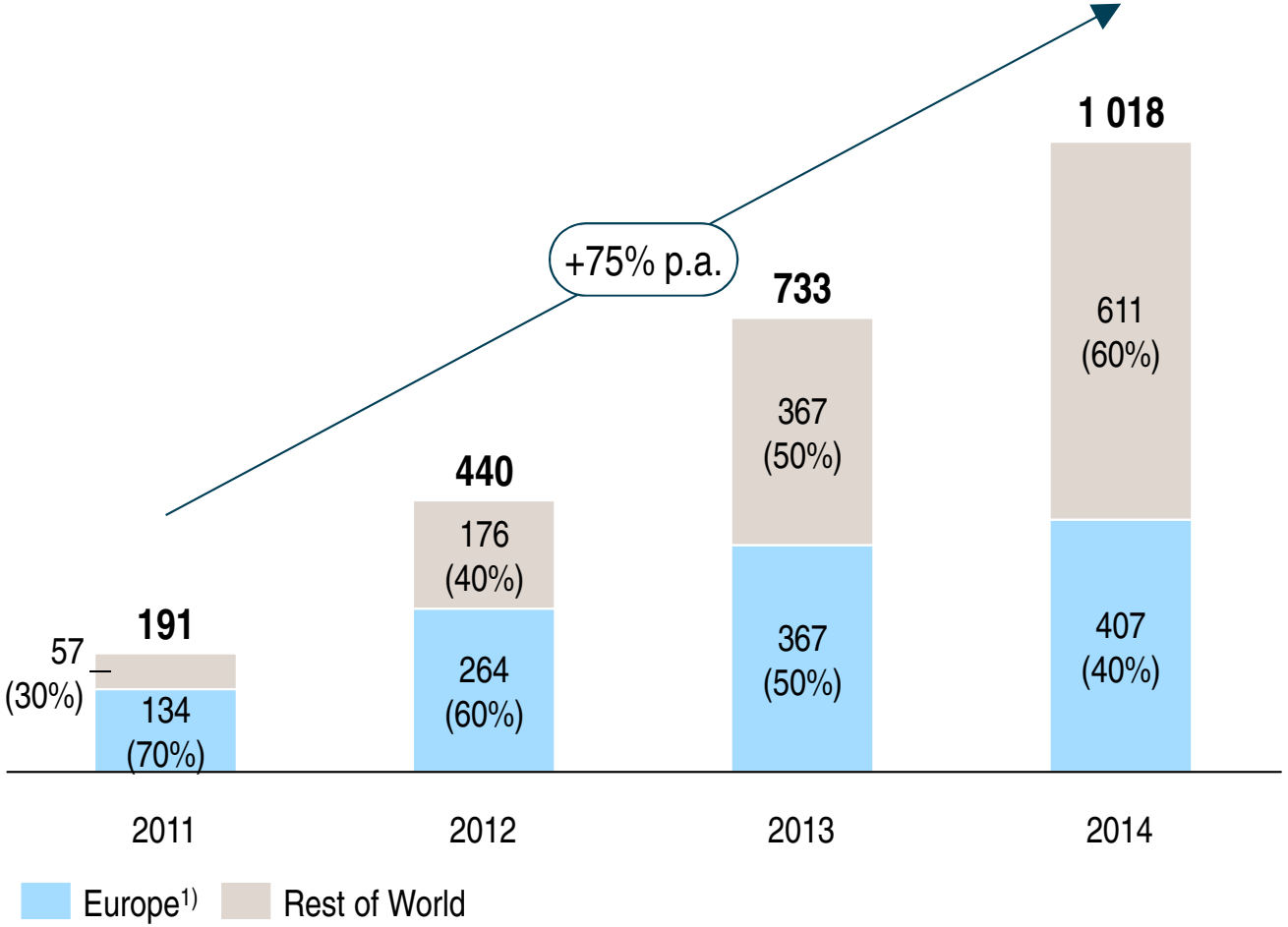
1) Cost Per Mille: price paid by advertisers for 1000 ads

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Spotify revenue is increasing at ~75% p.a. since 2011, with Europe amounting 40% of the revenue in 2014

General key metrics – Revenue [World; EUR m]



1) Europe: assumption of decreasing share of total Revenue

32 new countries launched in 2013

Argentina	Estonia	Mexico
Bolivia	Greece	Nicaragua
Bulgaria	Guatemala	Panama
Chile	Honduras	Paraguay
Colombia	Hong Kong	Peru
Costa Rica	Hungary	Singapore
Cyprus	Iceland	Slovakia
Czech Republic	Latvia	Taiwan
Dominican Republic	Lithuania	Turkey
Ecuador	Malaysia	Uruguay
El Salvador	Malta	

58 countries with operations in 2015

Source: Spotify's corporate website, press reviews, Roland Berger analysis

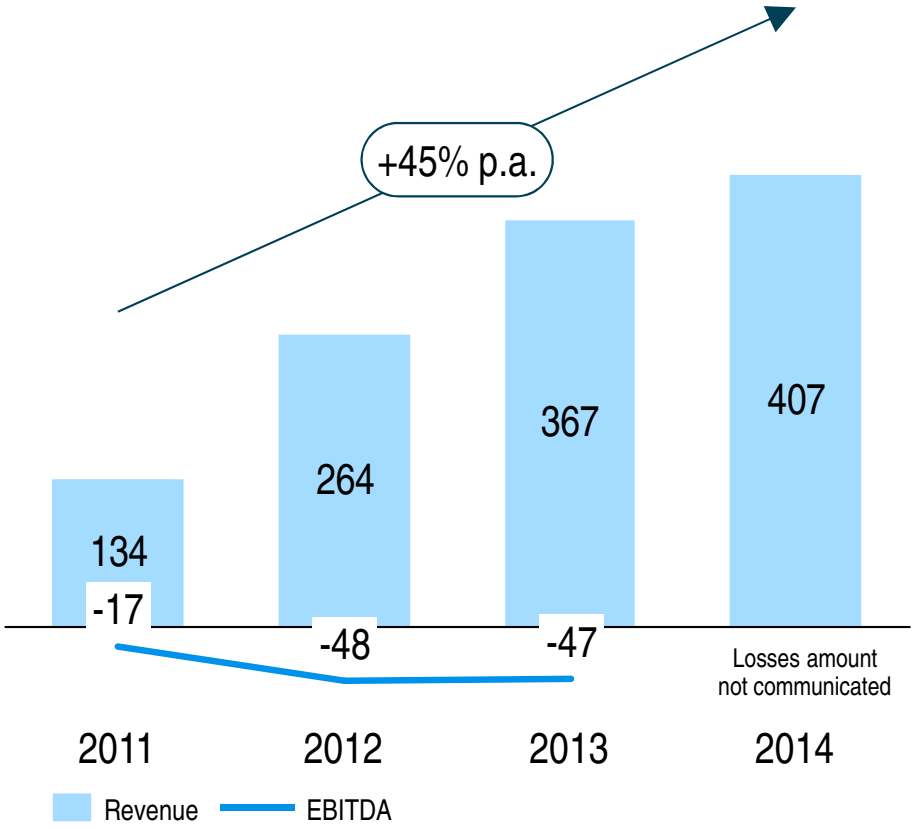
Roland Berger Strategy Consultants

Spotify is growing at ~45% p.a. in Europe since 2011, with 91% of revenue coming from premium subscriptions in 2014

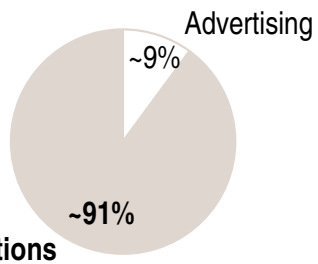
Financial key metrics

Spotify

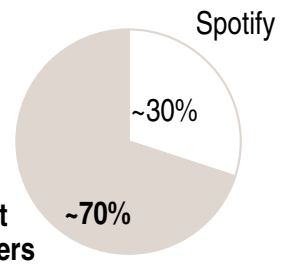
Revenue and EBITDA [Europe[1]; EUR m]



Revenue source [2014]

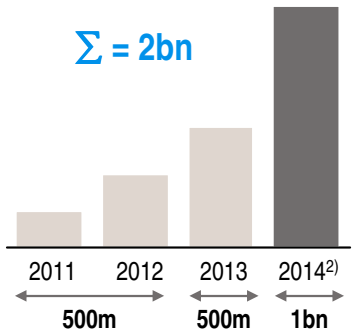


Revenue split [2014]



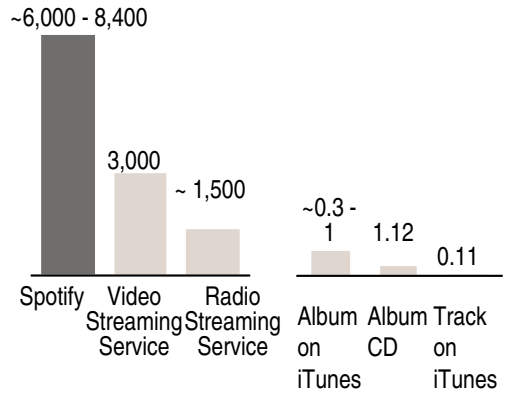
Costs

Total annual royalties pay out [USD ; 2011-2014]



Royalties [USD ; 2014]

Per 1m players



1) Europe: assumption of decreasing share of total revenue 2) 60% royalties paid for free users in 2014

Source: Spotify's corporate website, press reviews, Roland Berger analysis

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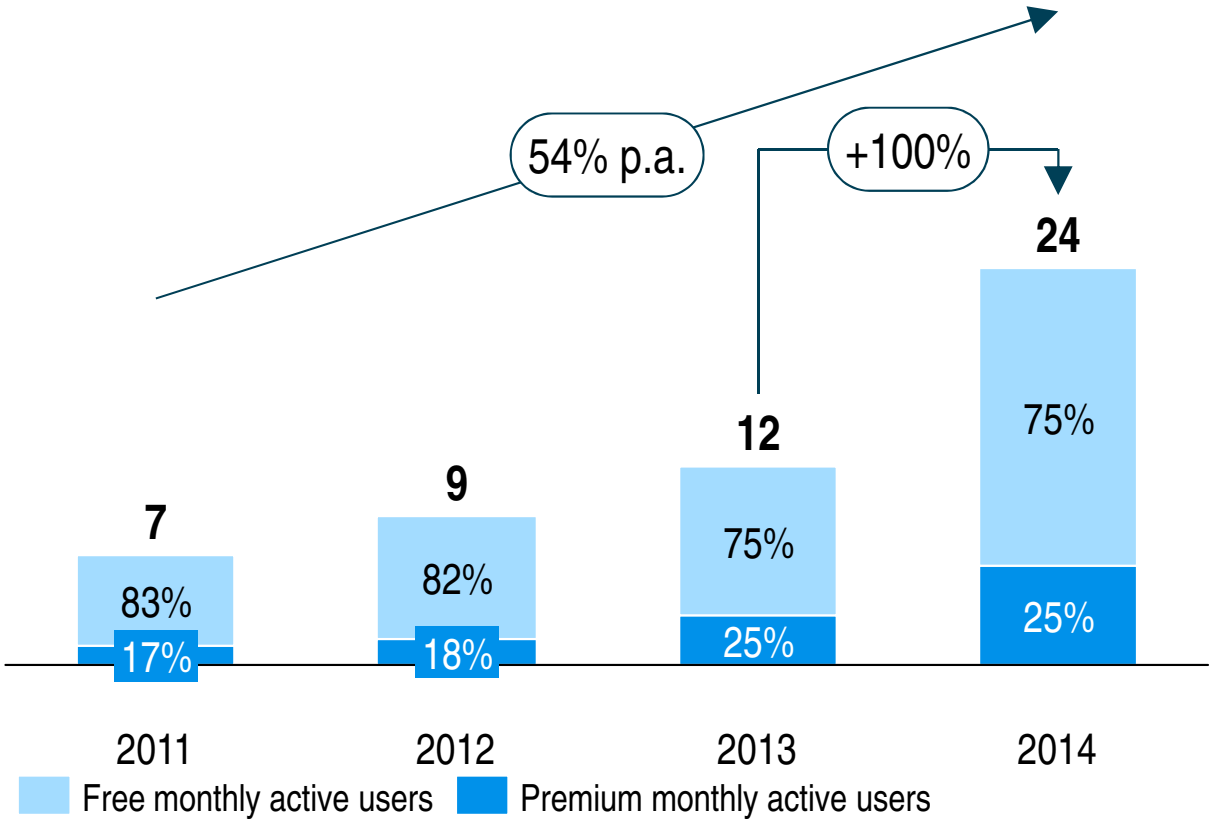
Roland Berger Strategy Consultants

Spotify European customer base increased by 100% in 2014, mostly due to launch in 8 new markets in 2013

Customer metrics

Spotify

Monthly active users [Europe[1]; m users]



1) Europe: assumption of decreasing share of total revenue

Other key figures [2014]

82 € Average revenue per premium user per year in 2014

20% Monthly churn rate in 2012

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Source: Spotify's corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Spotify profitability relies entirely on premium subscribers with an almost EUR -7.5 loss per free user in 2014

Revenue assessment [Europe; 2014]

Spotify

	Revenue [EUR m]	Royalties [EUR m]	# users [m] 2013	# users [m] 2014	Revenue / user [EUR]	Royalties / user [EUR]	Net revenue (excl. royalties) [EUR]
End of year total / average	407	285	12	24	17.0	11.9	5.1
Full year average			18		*22.6*	*15.8*	*6.8*
End of year Premium	370 (91%)	114 (40%)	3	6 (25%)	61.7	19.0	42.7
Full year average			4.5		*82.2*	*25.3*	*56.9*
End of year Free	37 (9%)	171 (60%)	9	18 (75%)	2.1	9.5	-7.4
Full year average			13.5		*2.7*	*12.7*	*-10.0*

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NOTE: Assuming premium subscribers consume twice the level of music consumed by free subscribers – see back-up

Source: Spotify's corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

A conservative approach, assumes that premium users consume about twice as much content as free users

User consumption – Free vs. premium subscribers

Spotify

RB preferred approach

High case based on a 146-minute listening time per user per day on average

	# customers (millions)		Time spent daily (minutes)	
Total / average	24	x	146	
		=		
Premium	6	x	332	x 4
		+		
Free	18	x	84	

Conservative case based on a 110-minute listening time per user per day on average

	# customers (millions)		Time spent daily (minutes)	
Total / average	24	x	110	
		=		
Premium	6	x	188	x 2
		+		
Free	18	x	84	

xx : data from press review

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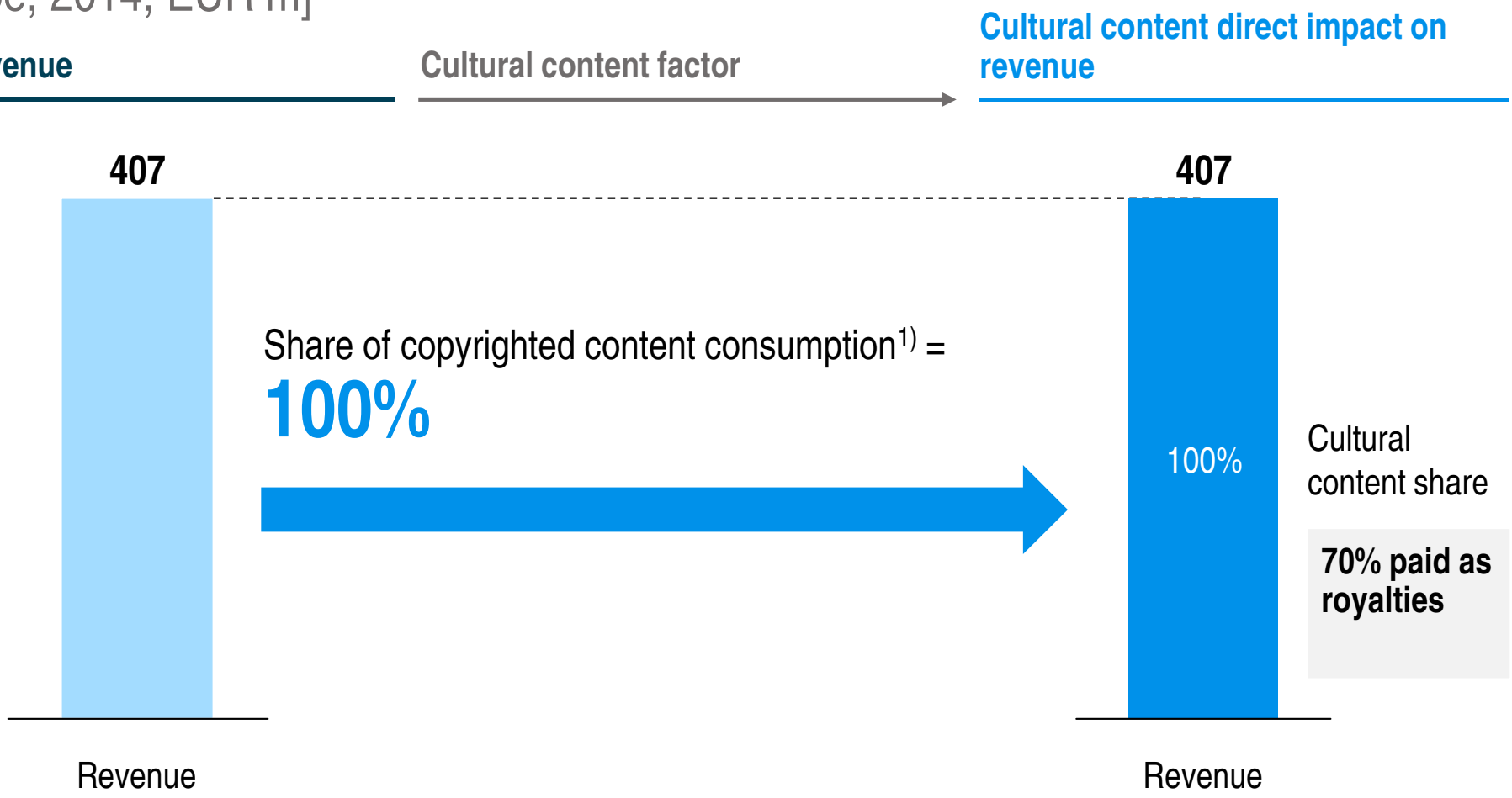
Source: Spotify's corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Spotify Business Model is fully based on legal cultural content distribution (i.e. Music, to date)

Calculation of the cultural content direct impact on revenue [Europe; 2014; EUR m]



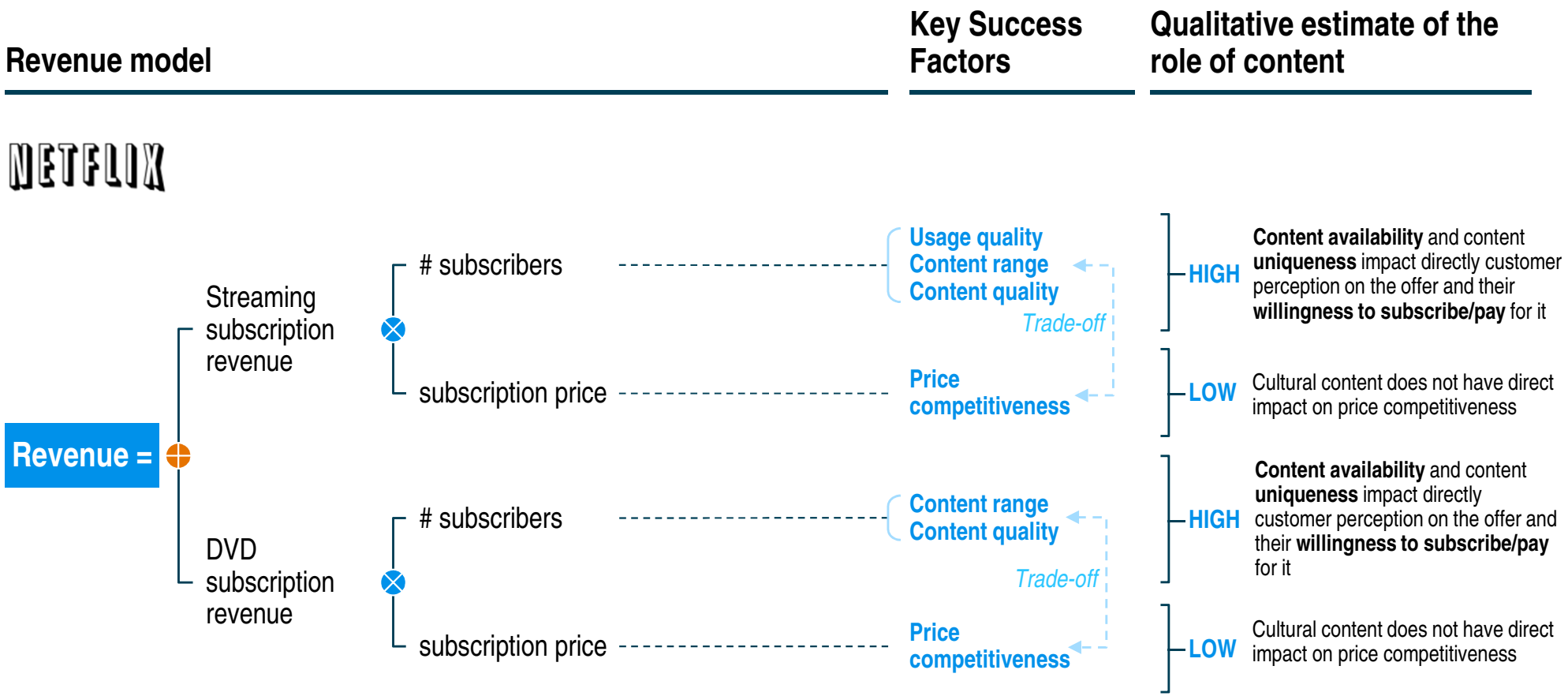
1) in opposition to user generated content (UGC)

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Netflix business model entirely relies on subscriptions, either for content streaming or for DVD rental (in the US only)

Benchmark – Licensed digital content distributors business model



FINAL VERSION

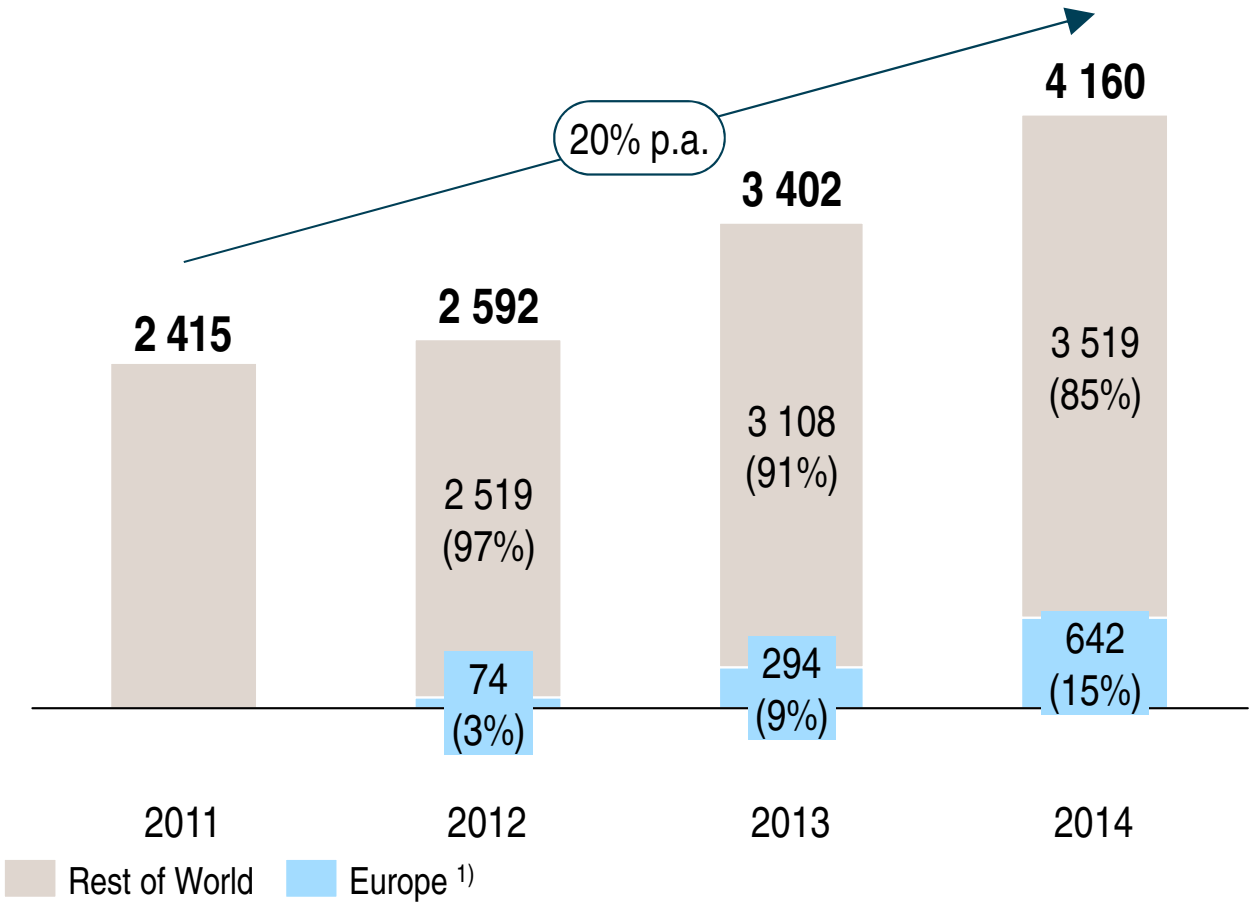
Source: Roland Berger analysis

Roland Berger Strategy Consultants

Through its video streaming offer, Netflix became a worldwide leader, with Europe accounting for ~15% of its total revenue in 2014

General key metric – Revenue [World; EUR m]

NETFLIX



1) Europe: press review in 2013, proxy based on international revenue published by Netflix

9 new countries launched since 2013

Australia	France	New Zealand
Austria	Germany	Switzerland
Belgium	Luxembourg	The Netherlands

50 countries with operations in total in 2015

10 000 movies available on Netflix website in the US

Source: Netflix corporate website, press reviews, Roland Berger analysis

FINAL VERSION

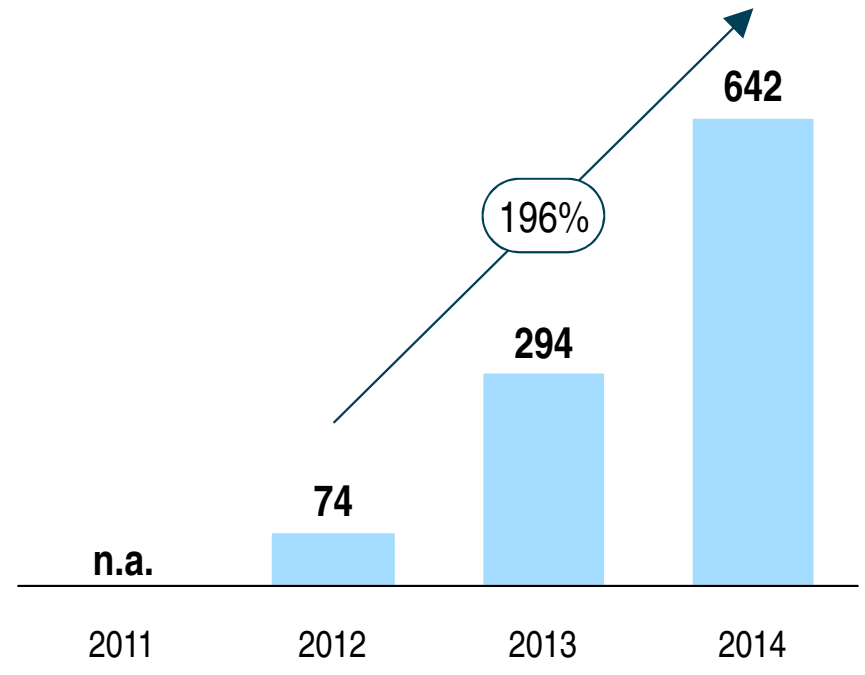
Roland Berger Strategy Consultants

Although Netflix is not breaking even in Europe by 2014, its revenue has been increasing significantly year on year since 2012

Financial key metrics

NETFLIX

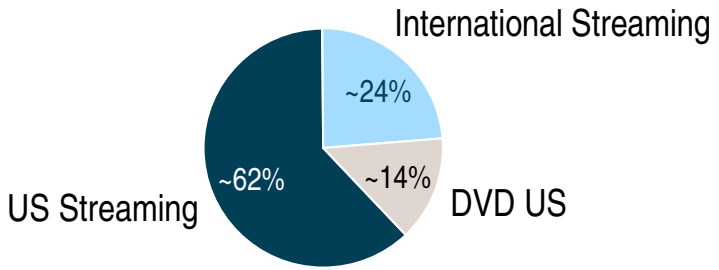
Revenue [Europe[1]; EUR m]



"Some of our costs in Europe are not reported in Netflix Luxembourg accounts […]. We are still losing money in Europe"

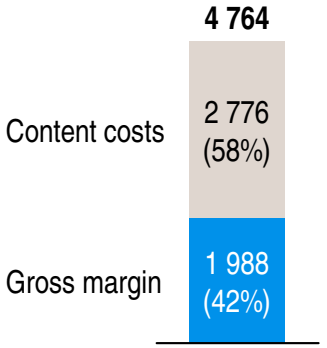
Netflix quoted in L'Express, Sep. 2014

Revenue sources [2014]



Costs

Streaming revenue vs. content cost
[Global; 2014; USD m]



Not including

300 m $

Global original content investments in 2014

1) Europe: press review in 2013, proxy based on international revenue published by Netflix

Source: Netflix corporate website, press reviews, Roland Berger analysis

FINAL VERSION

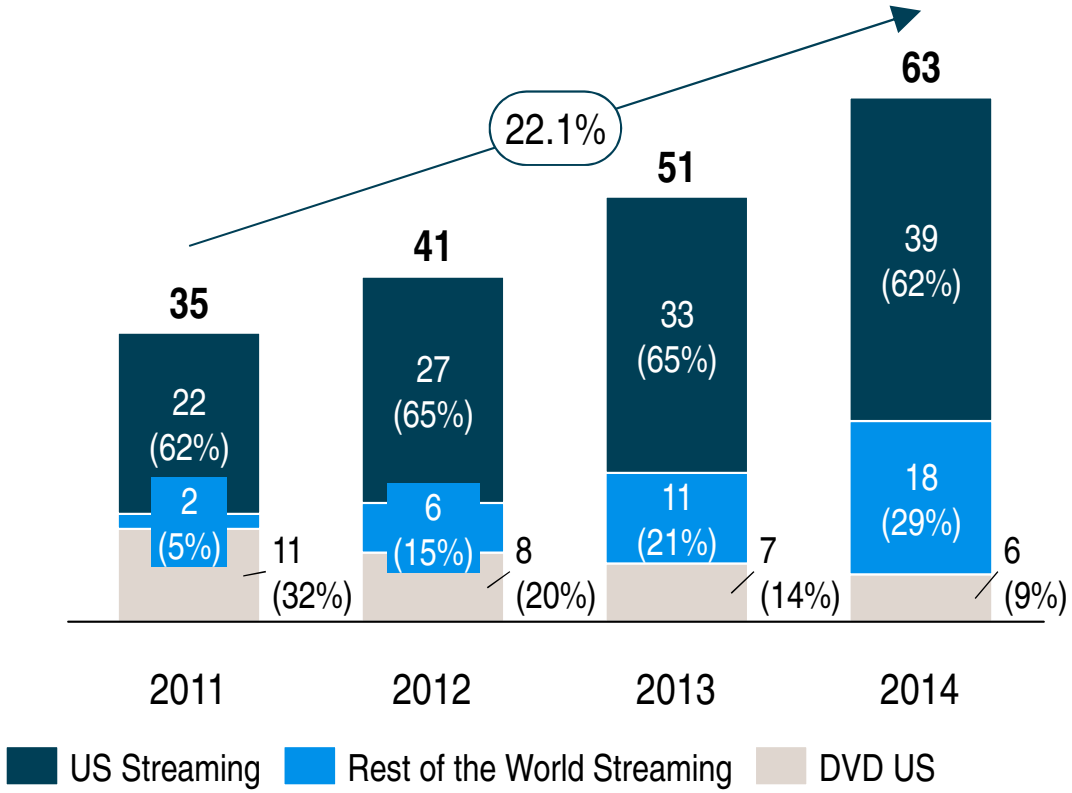
Roland Berger Strategy Consultants

Netflix subscriber base for video streaming outside the US now accounts for 29% of total subscribers vs. 15% in 2012

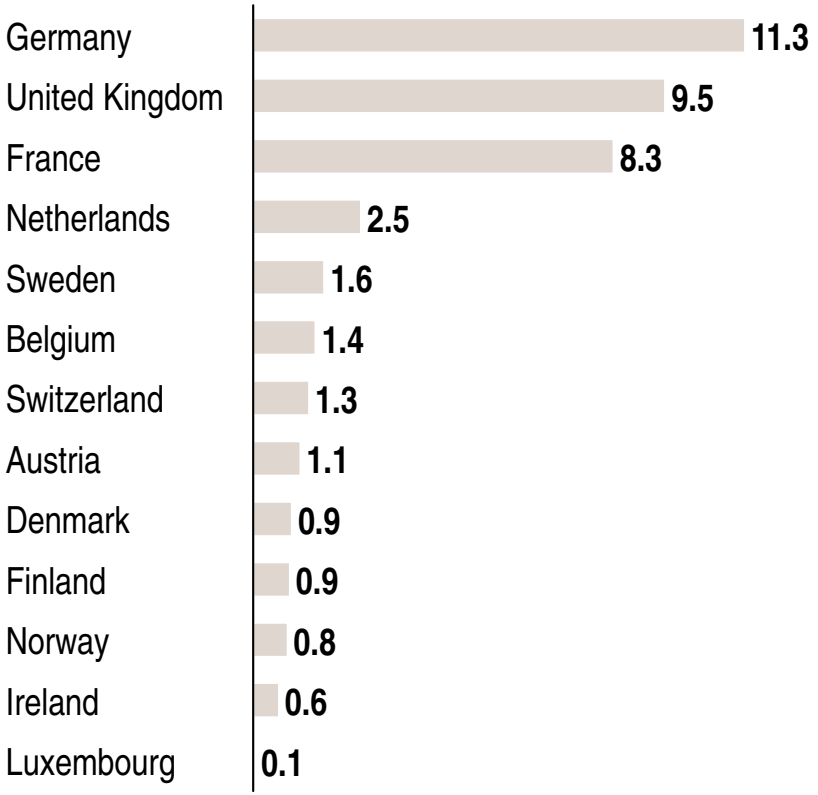
Customer metrics

NETFLIX

Number of monthly active users [World; m users]



Projected number of Netflix subscribers in European countries in 2020



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Source: Netflix's corporate publications, Digital TV research, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

With an average net revenue per streaming subscriber of ~USD 16.6, Netflix largely overperforms Spotify profitability

Revenue assessment [2014]

NETFLIX

	Revenue [EUR m]	Content acquisition cost [EUR m]	# users [m]	Revenue / user [EUR]	Content acquisition cost / user [EUR]	Net revenue (excl. content acq. costs) [EUR]
Total / streaming	3 582	2 627	57	62	46	16.6
Streaming US	2 593 (72%)	1 724 (66%)	39	66	44	22.2
Streaming international	989 (28%)	903 (34%)	18	54	49	4.7
DVD US	578	311	6	100	54	46.4

Reminder: Spotify ~EUR 6

FINAL VERSION

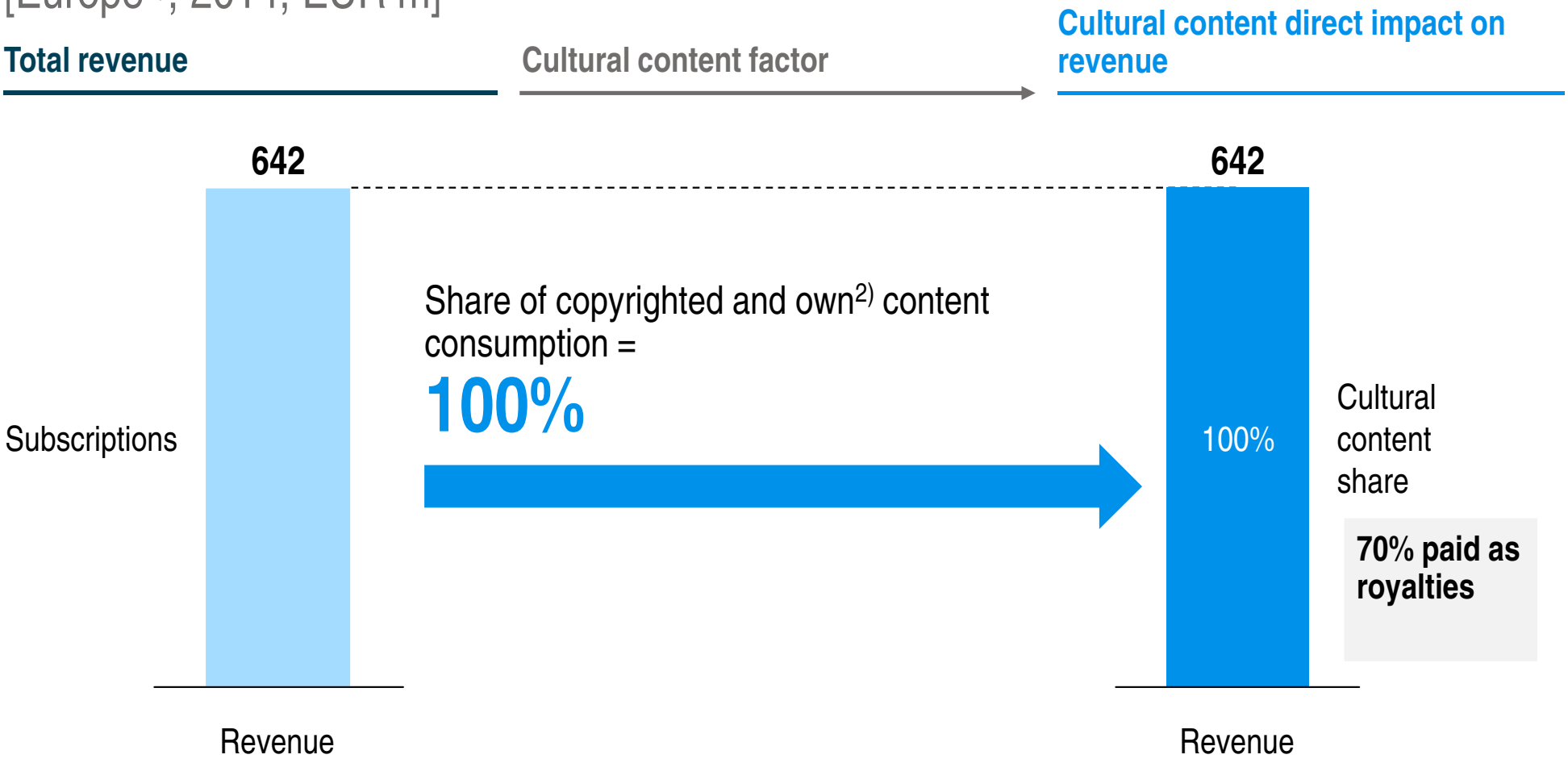
Source: Netflix corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

100% of the Netflix distributed content is cultural copyrighted content and original own produced content (i.e. video)

Calculation of the cultural content direct impact on revenue [Europe[1]; 2014; EUR m]

NETFLIX



1) Europe : press review in 2013, proxy based on international revenue published by Netflix
2) House of cards, Orange is the new black, …
Source: Netflix's corporate publications, press reviews, Roland Berger analysis

FINAL VERSION

Roland Berger Strategy Consultants

Benchmarked pure online licensed digital content distribution players from music and video industries show comparable value sharing approaches with right holders

Benchmarks summary on online content streaming [2014]

FINAL VERSION

Audio

Spotify

Average royalty repayment [% of revenue]

70%

Annual revenue per user[1)]
EUR 17

Annual net revenue per user[1)] (after royalties)
EUR 5.1

Annual net revenue per premium user[1)] (after royalties)
EUR 42.7

Annual net revenue per free user[1)] (after royalties)
EUR -7.4

Royalties per digital listen
EUR 0.006

Video

NETFLIX

Average content acquisition cost [% of revenue]

73%

Annual revenue per user[1)]
EUR 62

Annual net revenue per user[1)] (after content costs)
EUR 16.6

Annual net revenue per US streamer (after content costs)
EUR 22.2

Annual net revenue per streamer (excl. US) (after content costs)
EUR 4.7

1) Number of users: end of period

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Beyond Music & Video, other cultural content start to be distributed via alternative copyrighted content players: Blendle & the press

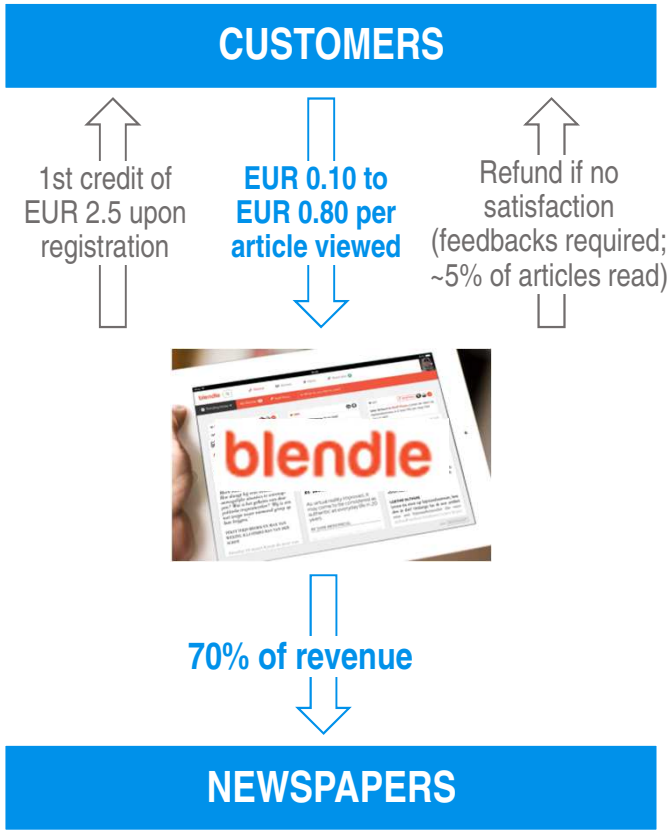
Development of the "iTunes for the Press" – Blendle

blendle

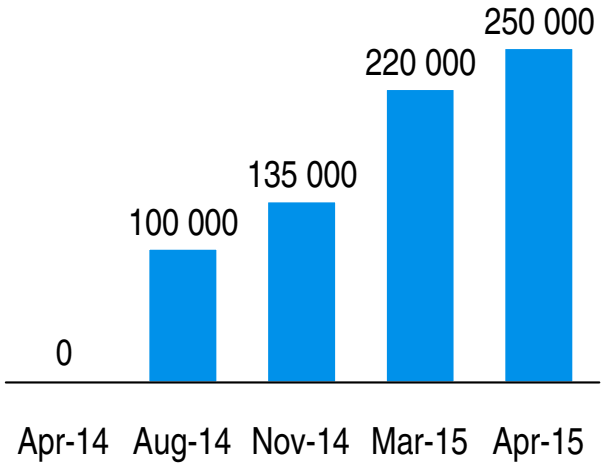
Company overview

- Dutch company launched officially in **April 2014** by two 27 years old journalists
- Service **of pay per view for press articles**, available on Blendle **website** and **app**
- **Newsfeeds of stories** about the topics customers are interested in, with articles they can read further by **clicking on them**
- **No marketing budget** required during the first year of activity
- EUR 3 m invested in October 2014 by Axel Springer and the New York Times to foster international expansion

Business Model



Customer base [#]



20% Constant **conversion** rate to **paying** users

60% of users are between **20 and 35 years old**, not previously used / willing to pay for journalism

FINAL VERSION

Source: Business Insider, Medium.com, Blendle website, Roland Berger analysis

Roland Berger Strategy Consultants

In 2015, other players are following Blendle and entering the press micropayment arena : example of Onemoretab and Jolstore

Development of the "iTunes for the Press" – Onemoretab and Jolstore

OneMoreTab

> Launched initially as a **free and unlimited customized portal** of news information in 2013; with **300,000 unique visitors** claimed for 2014

> Aiming at developing **paid usage and content**, to be launched in S1 **2015**, with the following **concept** and **objectives**

- Fixed price of **EUR 0,20** per article
- **70% of revenue** given back to the media companies
- **100,000 users** within 12 months

JOL STORE

> Launched in **132 countries**, including France, part of the **JolGroup**

> **Content** : press articles, photos and videos

> Running in France since the **end of 2014** thanks to :

- **Independent** editors and journalists (2,600), following first agreements with 6Medias and Visual agencies
- Agreements with **Chine Nouvelle** in January 2015, and **Amaury** group for a 3 months trial in March 2015

> Fund raising of **EUR 1 m in 2014**, and intension to raise **EUR 5 m in 2015**

> **Business Model** :

- **JolStore revenue** coming from editors and journalists **subscriptions** to use the platform (EUR 12 per month in France)
- **90% of revenue** given back to the media companies, **10% to the technical intermediaries** (eg PayPal)
- Between **EUR 0.05 to EUR 0.20** per article, price set by the author

What will be the position of newspapers in European countries ? Is there a risk on their brand value, or of cannibalisation of their current individual digital subscriptions ?

FINAL VERSION

Source: Press releases, company websites, Roland Berger analysis

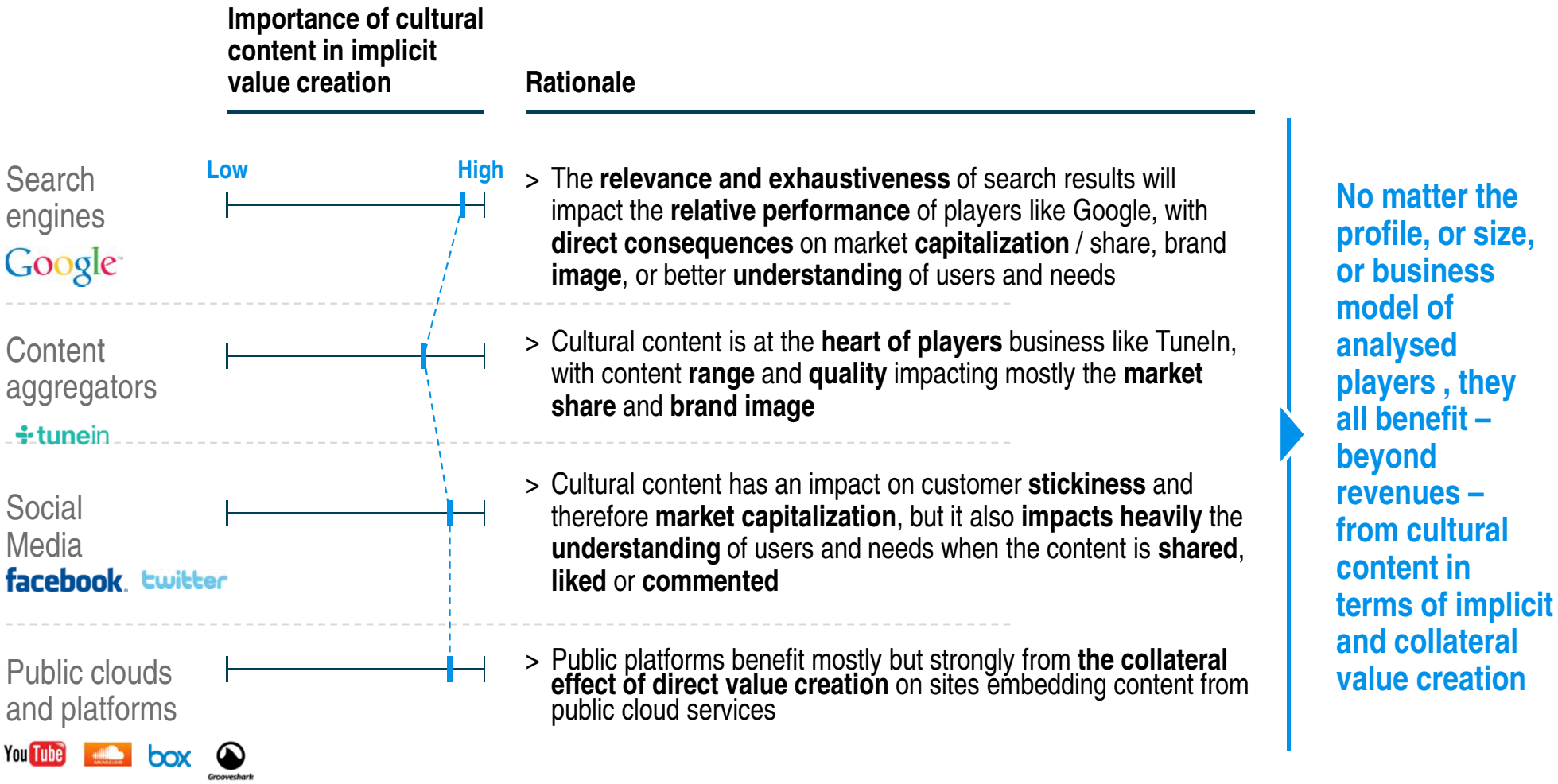
Roland Berger
Strategy Consultants

Contents

Roland Berger Strategy Consultants

Beyond revenues, all intermediaries benefit from the impact of cultural content on implicit and collateral value creation

Importance of cultural content in other mechanisms of value creation



FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

The direct European cultural content value differ from one intermediary typology to the other – overall several billions at stake

Overview of technical intermediaries – [Cultural content in Europe; EUR m ; %][1)]

Main player identified and analyzed				Europe	
Typology and player example		Total Revenue	Direct impact of CC	Total Market value	Direct impact of CC
Search engines	Google	15 470	~2 835 (18%)	16 140	~2 960
Content aggregators (music)	tunein	20	~15 (75%)	100	~75
Social Media	facebook	2 450	~1040 (43%)	3 160	~1 340
Lockers	box	100	~3 (3%)	1 740	~50
Public video platforms	YouTube	720	~475 (66%)	845	~555
TOTAL				21 985	~4 980 *(23%)*

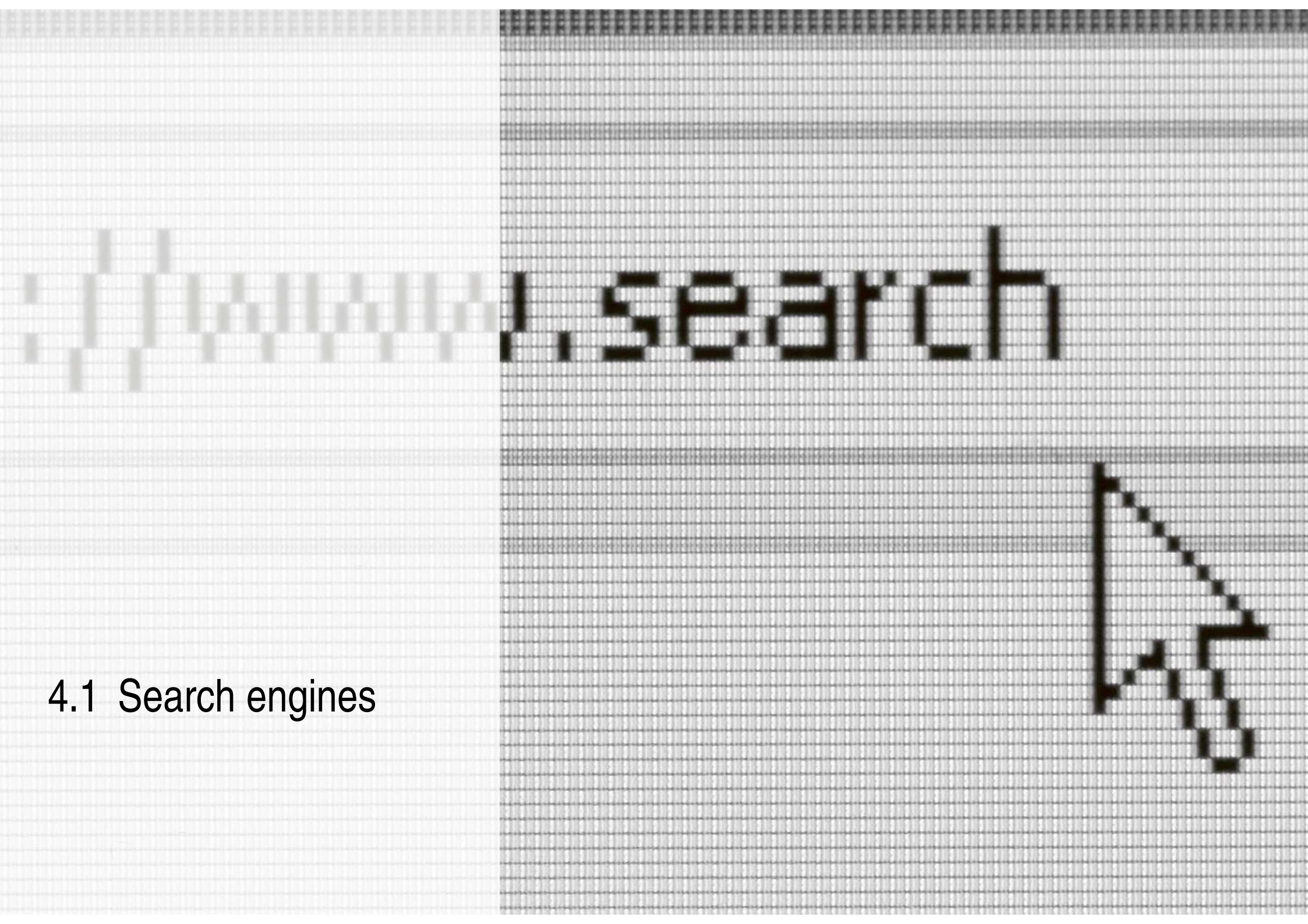
1) All figures rounded from most accurate calculation – hence offsets in sums of figures presented

Source: Roland Berger analysis

Roland Berger
Strategy Consultants

Contents

Page



4.1 Search engines

Among search engines, Google has a near monopoly in Europe, driving most of its search revenue from sponsored links

Technical intermediaries description – Search engines

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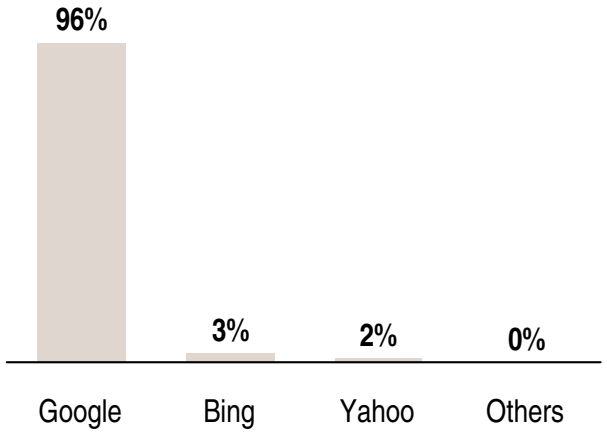
Who are they?

Google, bing, DuckDuckGo, YAHOO!, Qwant

Market share [Europe; 2014; users]



Why are they important?

- Internet navigation **main tool**
- **Frequent entry point** to any destination on the web
- **Directing towards cultural contents** published:
  - by right-holders (e.g. blogs)
  - on "legal" platforms (e.g. YouTube)
  - elsewhere (e.g. Facebook, but also illegal platforms)

How do they generate revenue?

Main revenue generation approach

- Sponsored links

Main revenue generation levers

- Available inventory
- Valuation of the inventory

Source: Press, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content contributed ~65% to the 2014 European search market (EUR 10.5 bn), out of which ~18% directly (EUR 3 bn)

Europe – Extrapolation of Google analysis on the search market

Google

Methodology – Volume market share

> **European search revenue** coming directly and indirectly **from cultural content** was analyzed **based on Google revenue and user market share** analyses

> **Google** had a **96% market share** in terms of **users** in Europe in 2014

> Assumption of **similar search and revenue breakdown to Google's for other players** (e.g. Yahoo!, Bing, Qwant, etc.)

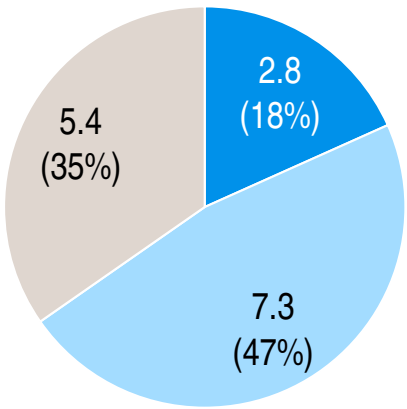
> Assumption on **other players' monetization capacity: 50% of Google's**

Results

Google

∑ = EUR 15.5 bn

96% of the market [# users]



Direct impact of cultural impact

Indirect impact of cultural impact

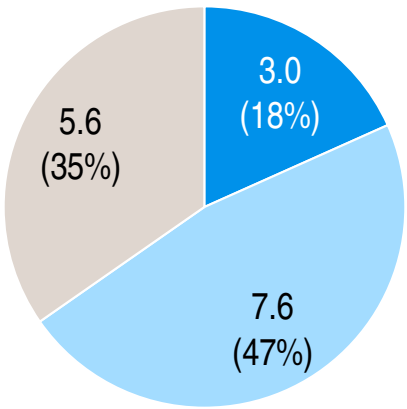
Ad revenue not impacted by cultural content

Total impact = EUR 10.1 bn

Europe

∑ = EUR 16.1 bn

100% of the market



Total impact = EUR 10.5 bn

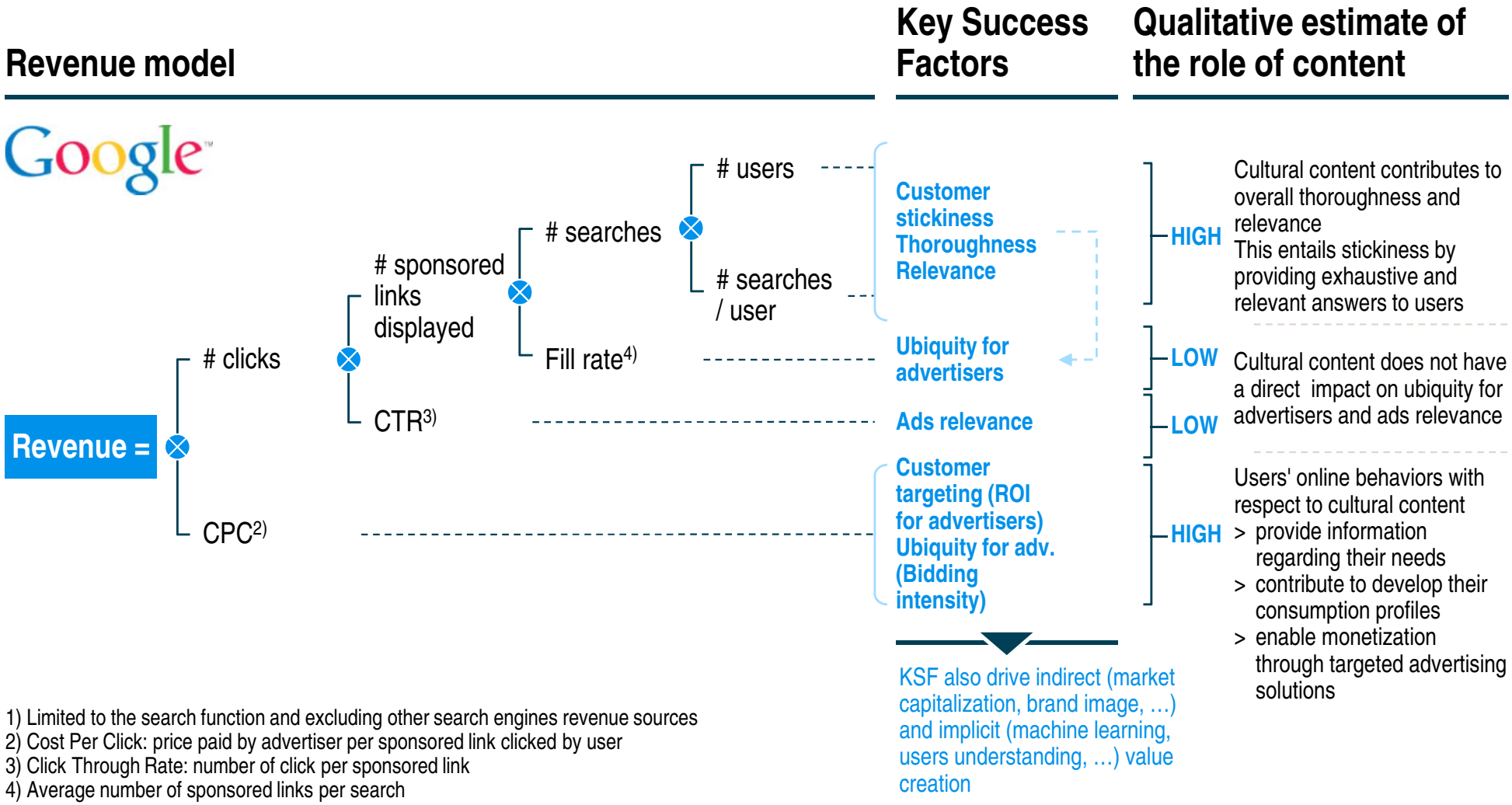
FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Content strongly contributes to search engines revenue model thanks to their availability on the net and ability to be indexed

Content role in Search engines business model[1)]



1) Limited to the search function and excluding other search engines revenue sources
2) Cost Per Click: price paid by advertiser per sponsored link clicked by user
3) Click Through Rate: number of click per sponsored link
4) Average number of sponsored links per search

Source: Roland Berger analysis

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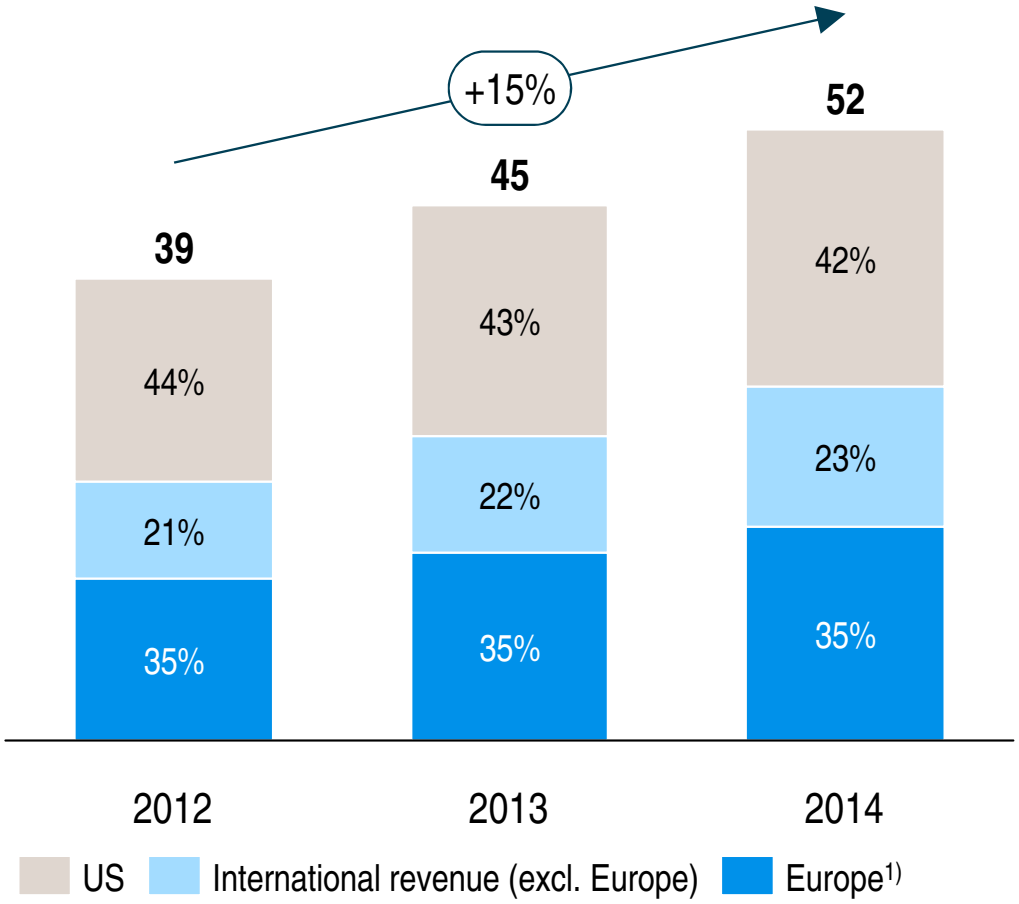
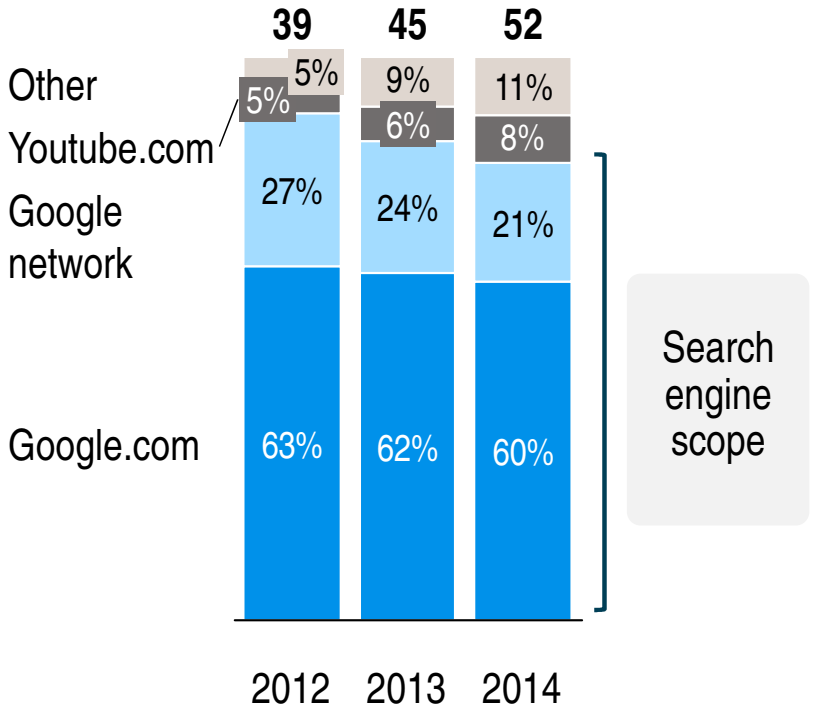
Roland Berger Strategy Consultants

Europe accounts for ~35% of Google global revenue

General key metrics – Revenue [World; EUR bn]



Distribution of global revenue [EUR bn]



1) Europe: proxy based on international revenue and number of users

Source: Google, press, Roland Berger analysis

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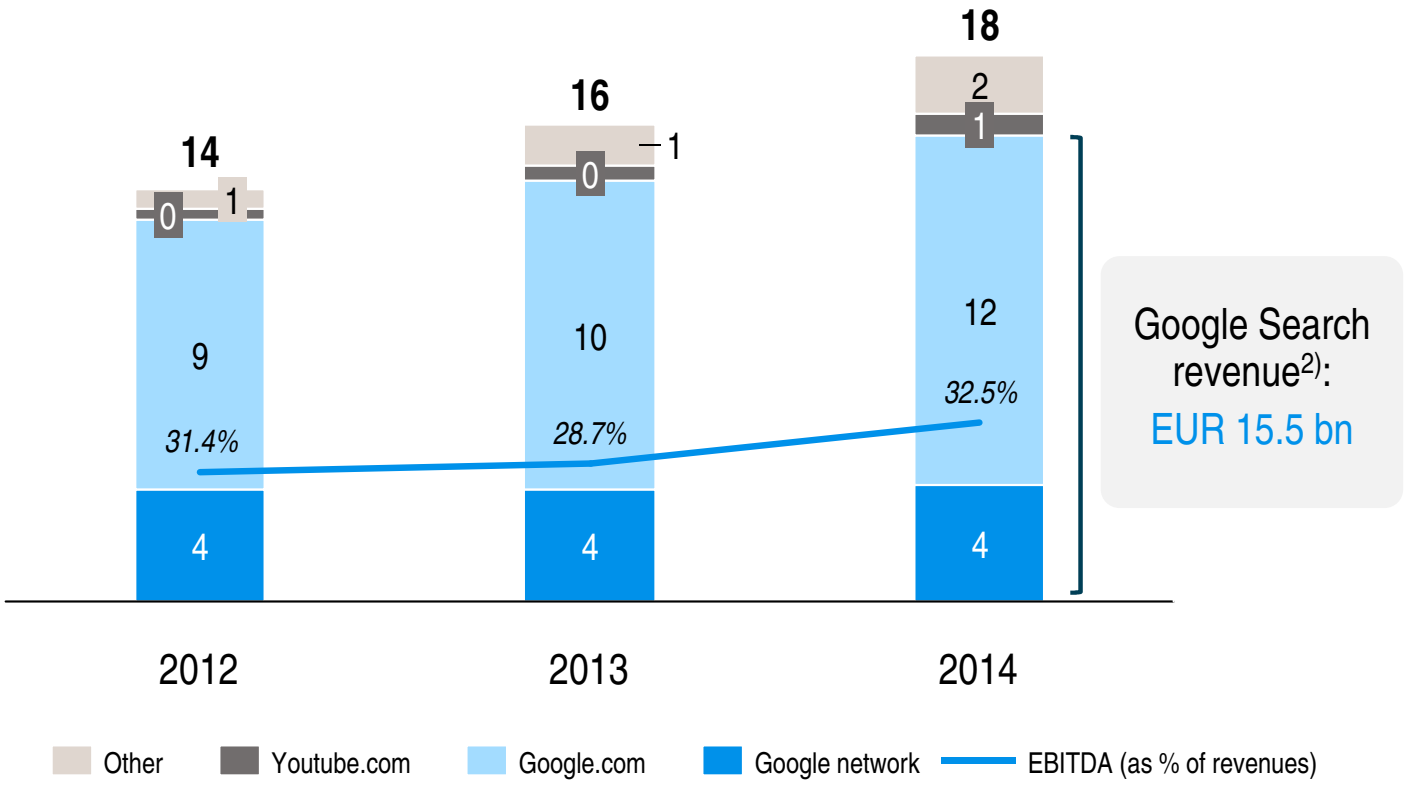
Roland Berger Strategy Consultants

Google Search benefits from a near monopoly in Europe and generates ~EUR 15.5 bn in 2014 from sponsored links advertising

Financial key metrics – Revenue and EBITDA [Europe[1]; EUR bn]

Google



Google Search revenue[2]:
EUR 15.5 bn

Comments

96% Market share in 2014 in Europe in number of users

Scope

- **Google network**: sponsored links and display on 3rd party sites (with revenue share)
- **Google.com**: sponsored links on Google Search
- **Youtube.com** : ads on YouTube
- **Other** : services

FINAL VERSION

1) Europe: proxy based on # of users and country data 2) Sponsored links and advertising

Source: Google, press, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content may have an overall impact of ~65% on Google advertising revenue generation

Synthesis of cultural content impact on overall value creation

Google

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
A	Direct impact on revenue [EUR bn]	2.8	18%	> ~18% of clicks on sponsored links are for cultural content related websites (18% for country A and 19% for country B)
B	Indirect impact on revenue [EUR bn]	7.3	47%	> Overall, the withdrawal of cultural content could lower the volume of global clicked links by ~65%, including 47% due to indirect impact > Indirect impact is estimated based on country A and B estimates (resp. 48% and 46%)
	Total impact for Google	**10.1**	**65%**	> Overall, **significant** amount of **revenue** and value are impacted by **cultural content: over EUR 10.1 bn** > Content, whether cultural or not, is also key to establish the legitimacy of search engines > Therefore, players like Google benefit widely from cultural content in Europe
C	Implicit value-creation levers	Very high		> Cultural content directly contributes to the exhaustiveness and the **relevance of search engines** and therefore the adherence of users to Google, strongly impacting its market share, market capitalization and brand image among others

FINAL VERSION

Source: Google, Roland Berger analysis

Figures come from 2 studies perform in 2 European countries in 2015

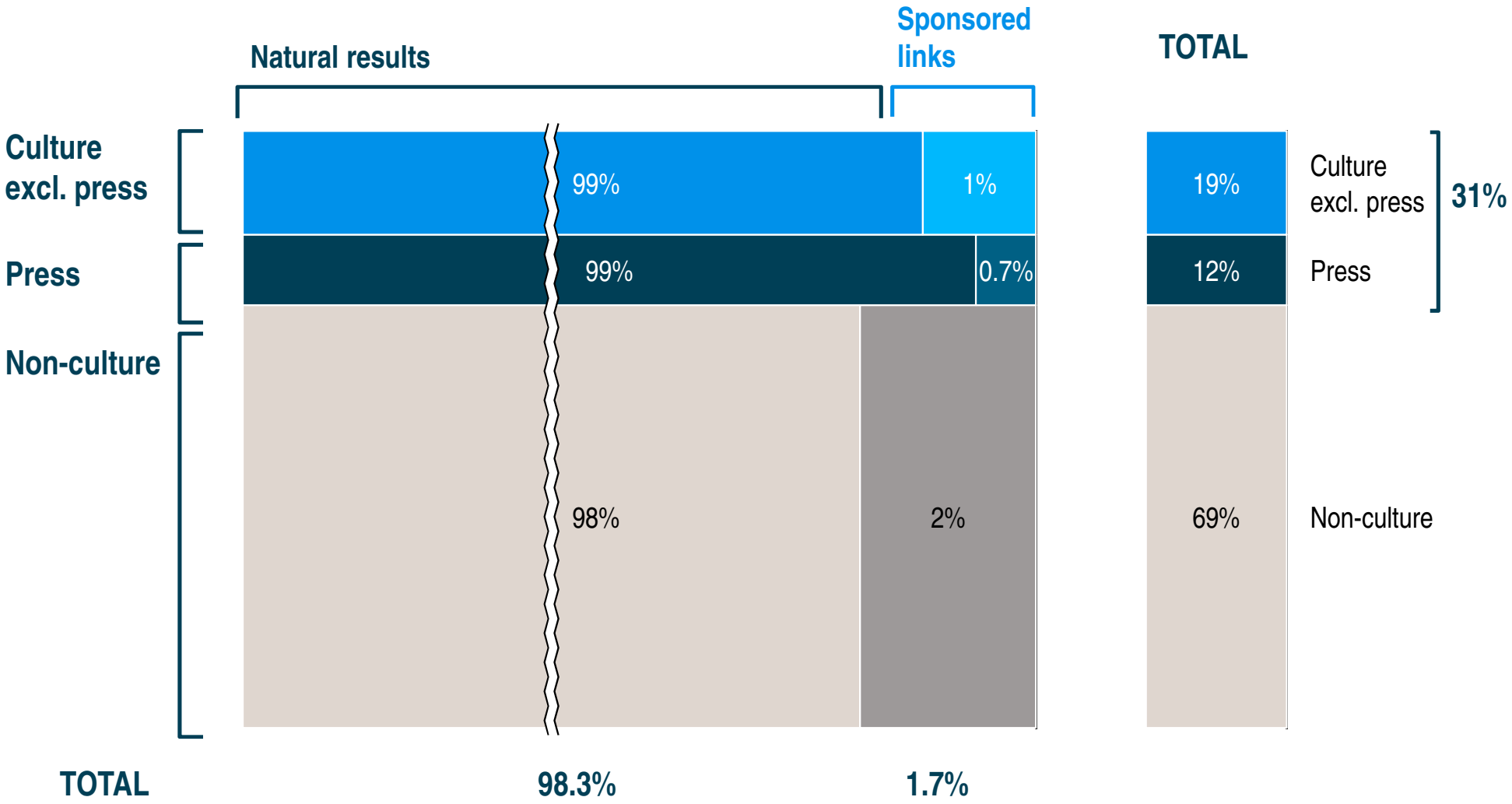
Methodology

1. Direct and indirect impacts were estimated by the same methodology in each countries

2. European estimation is based on the average of impact between these 2 countries

In the light of data provided by Mediametrie / Sepage in 2015, only ~2% of clicks are sponsored links

Detail of Google searches sample [2015; # of landing websites]



FINAL VERSION

Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

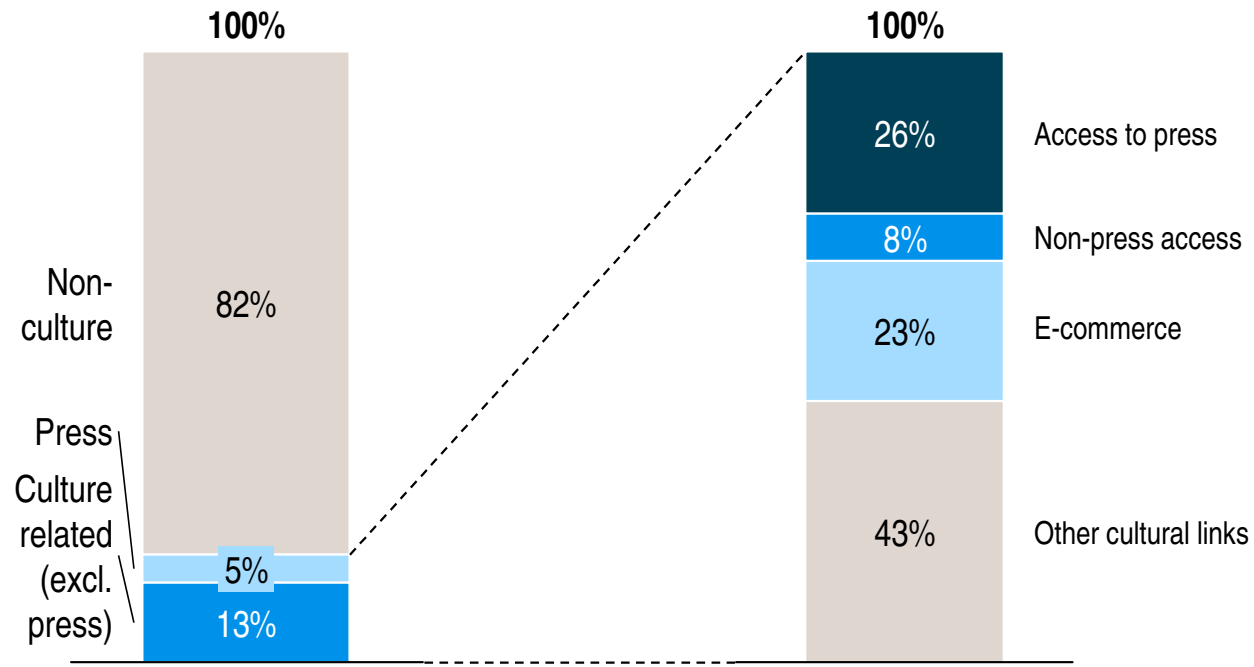
Among sponsored links, ~18% are cultural content-related websites, ~5% being press related and ~13% non-press

Google

Calculation of the cultural content direct impact on revenue [sponsored links; %]

Total sponsored clicked links

Total sponsored culture related clicked links



% of cultural content in sponsored links = [Total sponsored culture websites / total sponsored links]
= ~5% of Press culture & ~13% of non-press culture
= 18%

Cultural content direct impact on Google Search revenue = 18%

FINAL VERSION

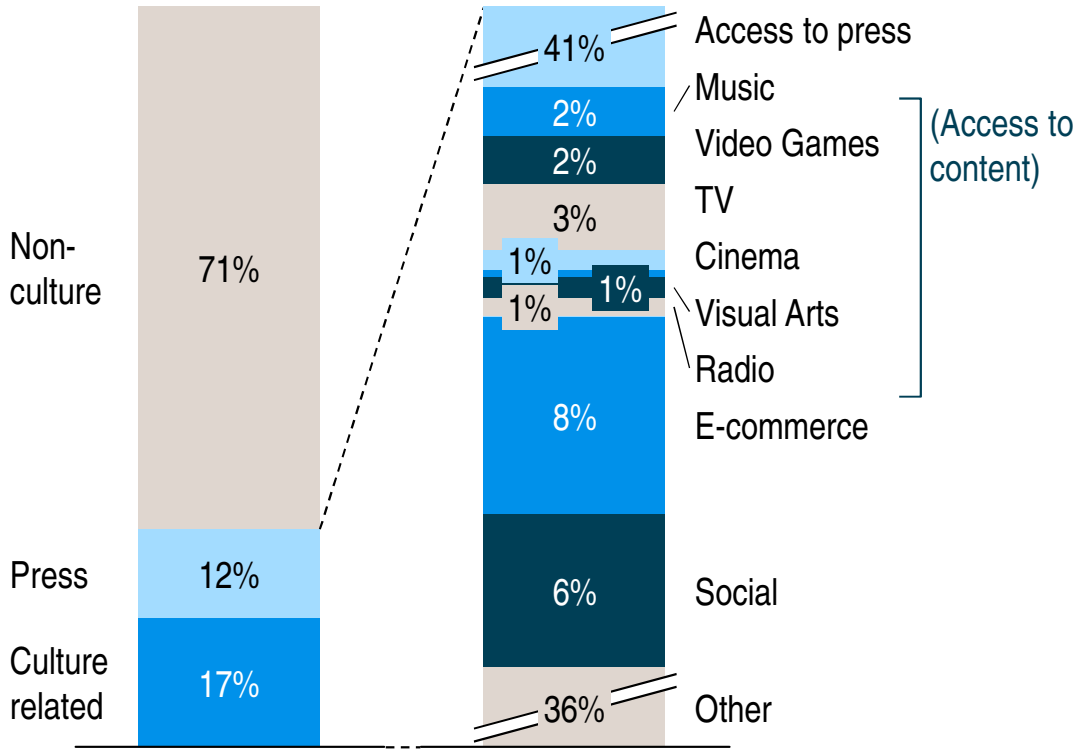
Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

In addition to direct revenue loss, without cultural content Google may loose a minimum of 29% of its usage, hence additional revenue

Calculation of the cultural content indirect impact on revenue [natural results] – approach 1

Distribution of clicks on natural results



Total impact on clicked links = **29%** Equivalent to overall usage, i.e. minimum risk related to paid clicks

Comments

> This approach evaluates the share of cultural content in **natural results** (vs. sponsored links)
> The approach does not measure user interest for cultural content specifically
> Hence a second approach (see here after)

FINAL VERSION

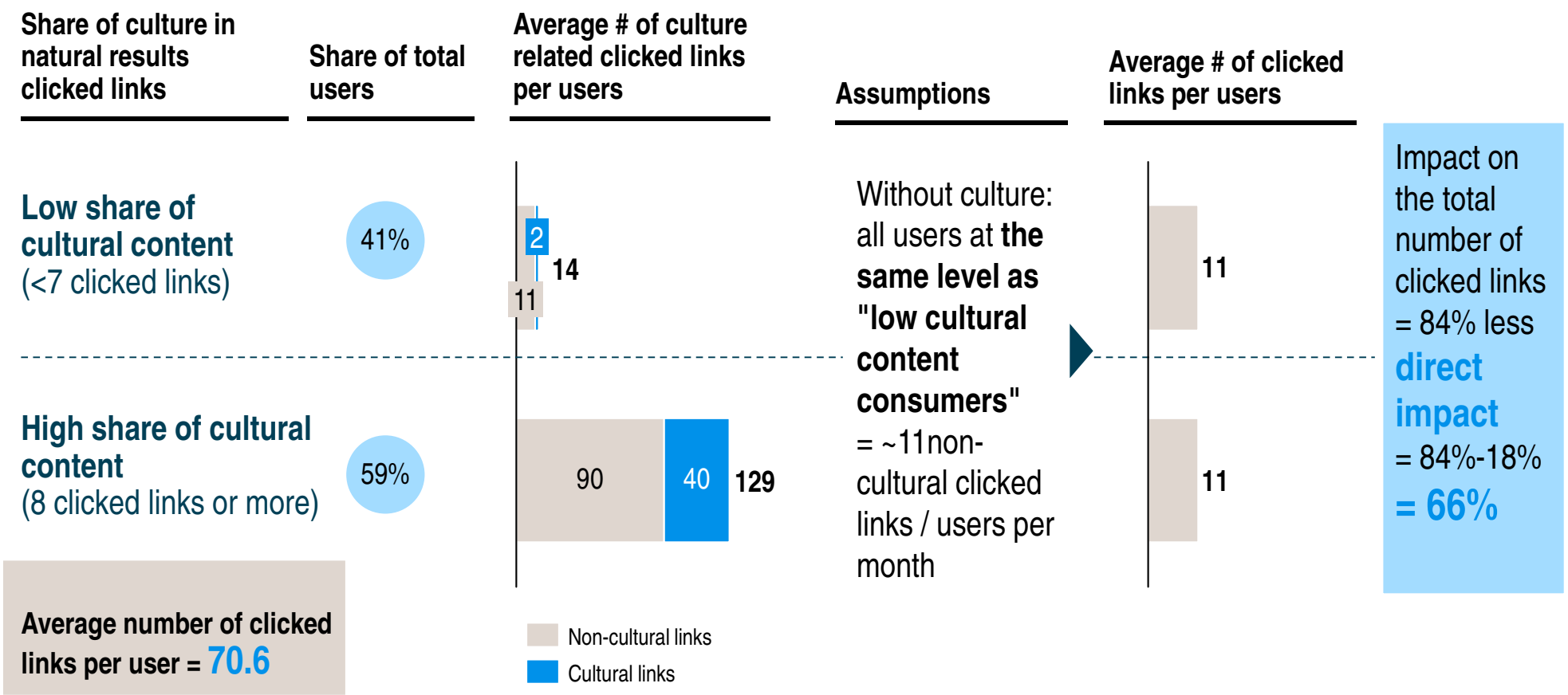
Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

Without cultural content, Google would loose stickiness; an aggressive approach hints at a loss of global clicks of 84%...

Calculation of the cultural content indirect impact on revenue [natural results] – approach 2

FINAL VERSION



Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

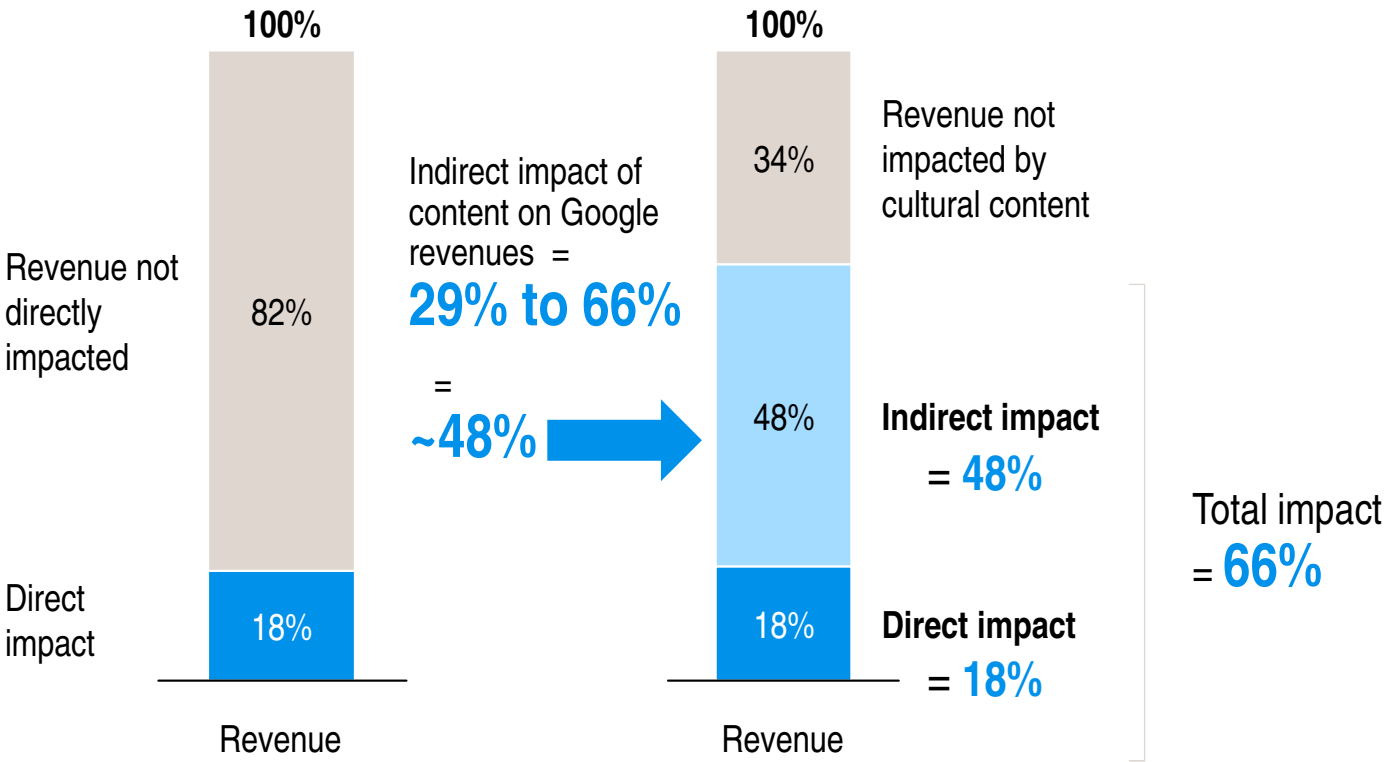
Roland Berger Strategy Consultants

Cultural content could therefore have contributed to 66% of revenue in 2014 in country A

Calculation of the cultural content direct and indirect impact on ad revenue

Google

Google Search revenue
[Country A; 2014; EUR bn]



Definitions

Contribution to ubiquity and stickiness

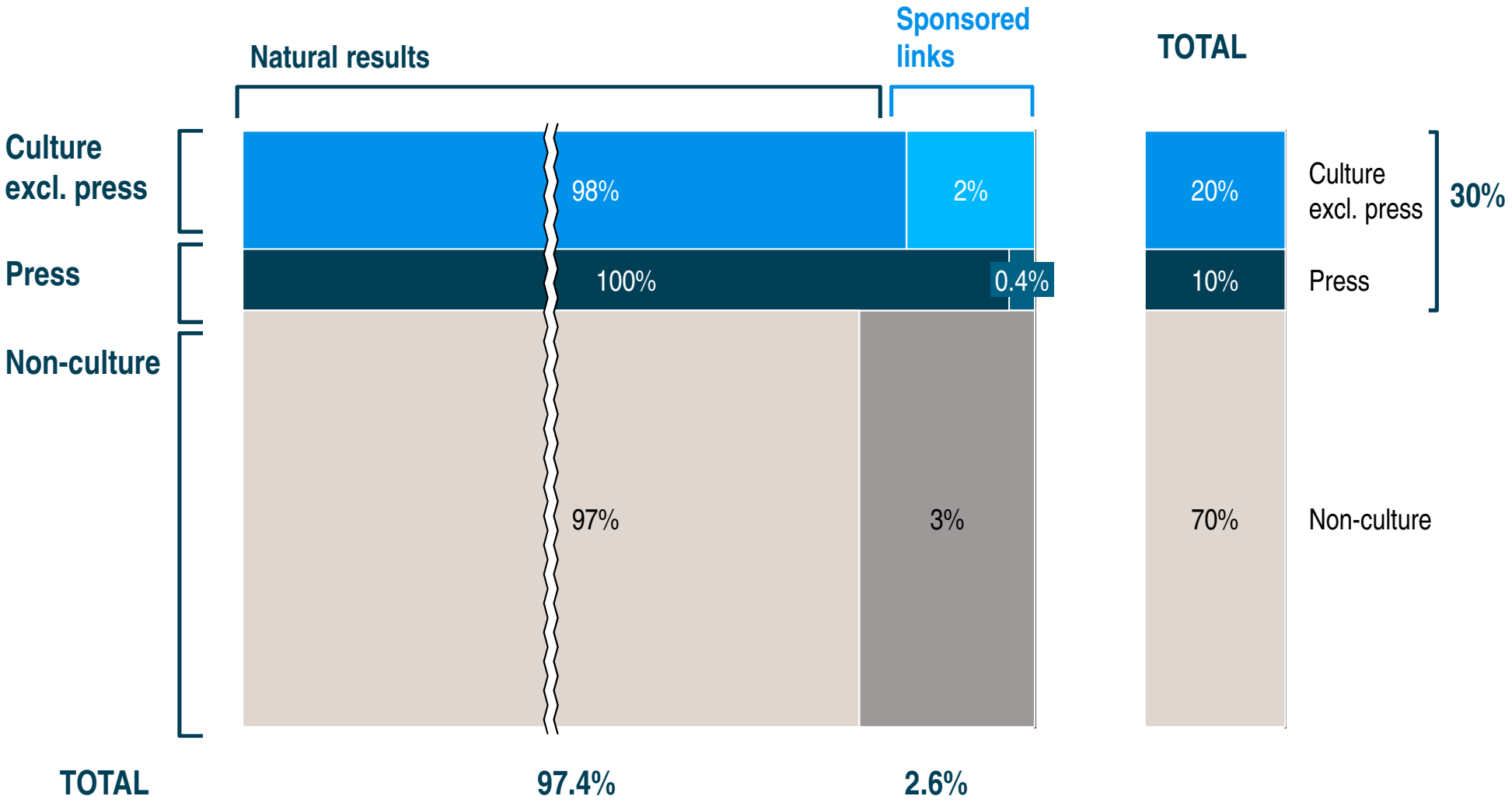
- Users stick to Google thanks to its efficiency as an information source
- Cultural content represents ~29% of natural clicked links (12% from press)
- Users number would significantly decrease in case Google would not be able to answer to searches in the cultural field

FINAL VERSION

Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

In the light of data provided by Mediametrie / Sepage in 2015, only ~3% of clicks are sponsored links

Detail of Google searches sample [2015; # of landing websites]



FINAL VERSION

Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

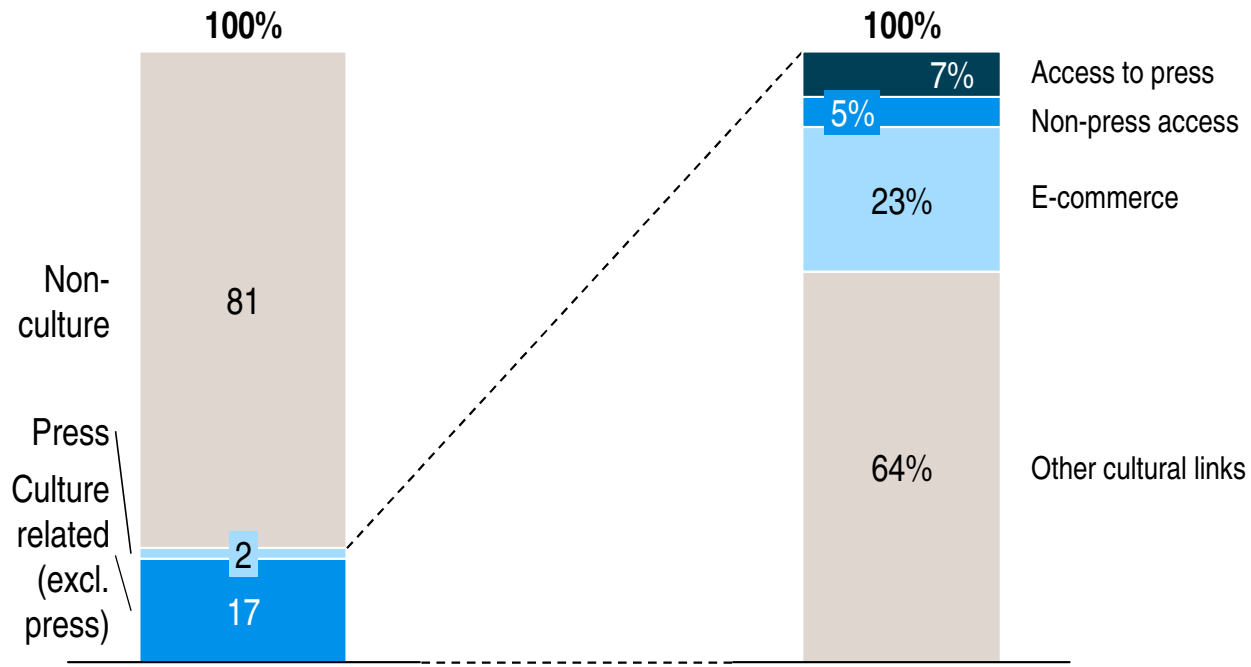
Among sponsored links, ~19% are cultural content-related pages, ~2% being press related and ~17% non-press

Google

Calculation of the cultural content direct impact on revenue [sponsored links; %]

Total sponsored clicked links

Total sponsored culture related clicked links



% of cultural content in sponsored links = [Total sponsored culture websites / total sponsored links]
= ~2% of Press culture & ~17% of non-press culture
= 19%

Cultural content direct impact on Google Search revenue = 19%

FINAL VERSION

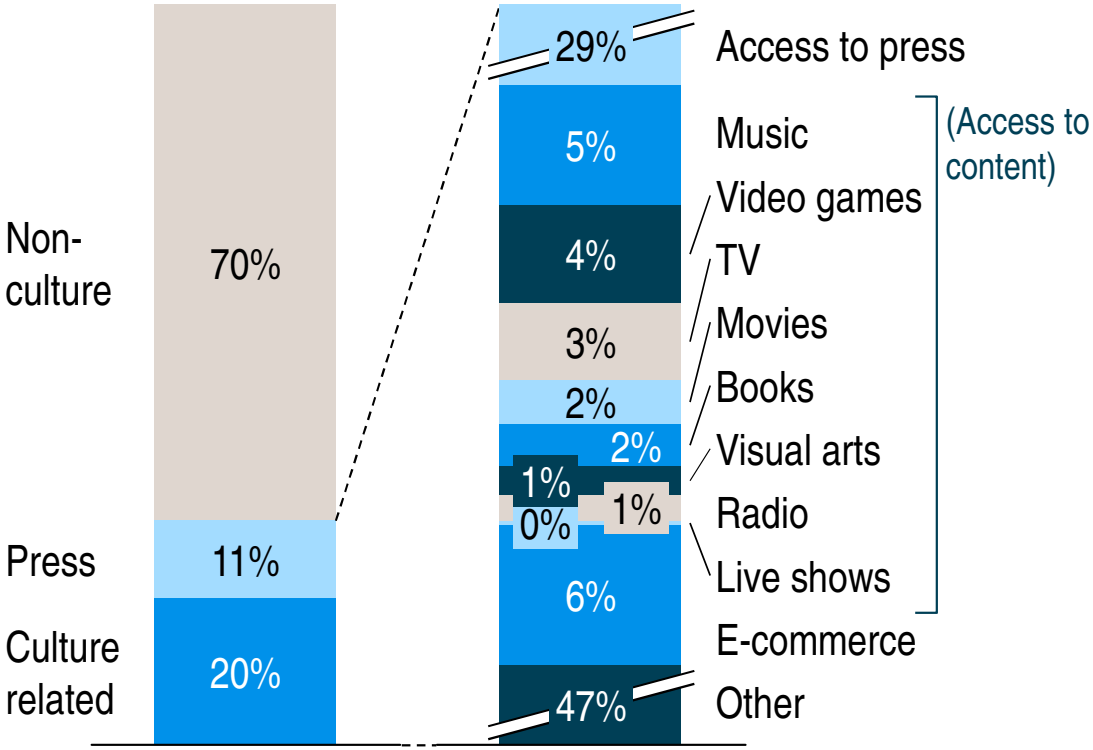
Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

In addition to direct revenue loss, without cultural content Google may loose a minimum of 31% of its usage, hence additional revenue

Calculation of the cultural content indirect impact on revenue [natural results] – approach 1

Distribution of clicks on natural results



Total impact on clicked links = **31%** Equivalent to overall usage, i.e. minimum risk related to paid clicks

Comments

> This approach evaluates the share of cultural content in **natural results** (vs. sponsored links)
> The approach does not measure user interest for cultural content specifically
> Hence a second approach (see here after)

FINAL VERSION

Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

Without cultural content, Google would loose stickiness; an aggressive approach hints at a loss of global clicks of 79%...

Calculation of the cultural content indirect impact on revenue [natural results] – approach 2

FINAL VERSION

Share of culture in natural results clicked links	Share of total users	Average # of culture related clicked links per users	Assumptions	Average # of clicked links per users
Low share of cultural content (<4 clicked links)	53%	1 + 8 = 9	Without culture: all users at **the same level as "low cultural content consumers"** = ~8 non-cultural clicked links / users per month	8
High share of cultural content (Between 4 and 242 clicked links)	47%	22 + 46 = 68		8

Average number of clicked links per user = 36.4

Non-cultural links
Cultural links

Impact on the total number of clicked links = 79% less **direct impact** = 79%-19% **= 61%**

Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

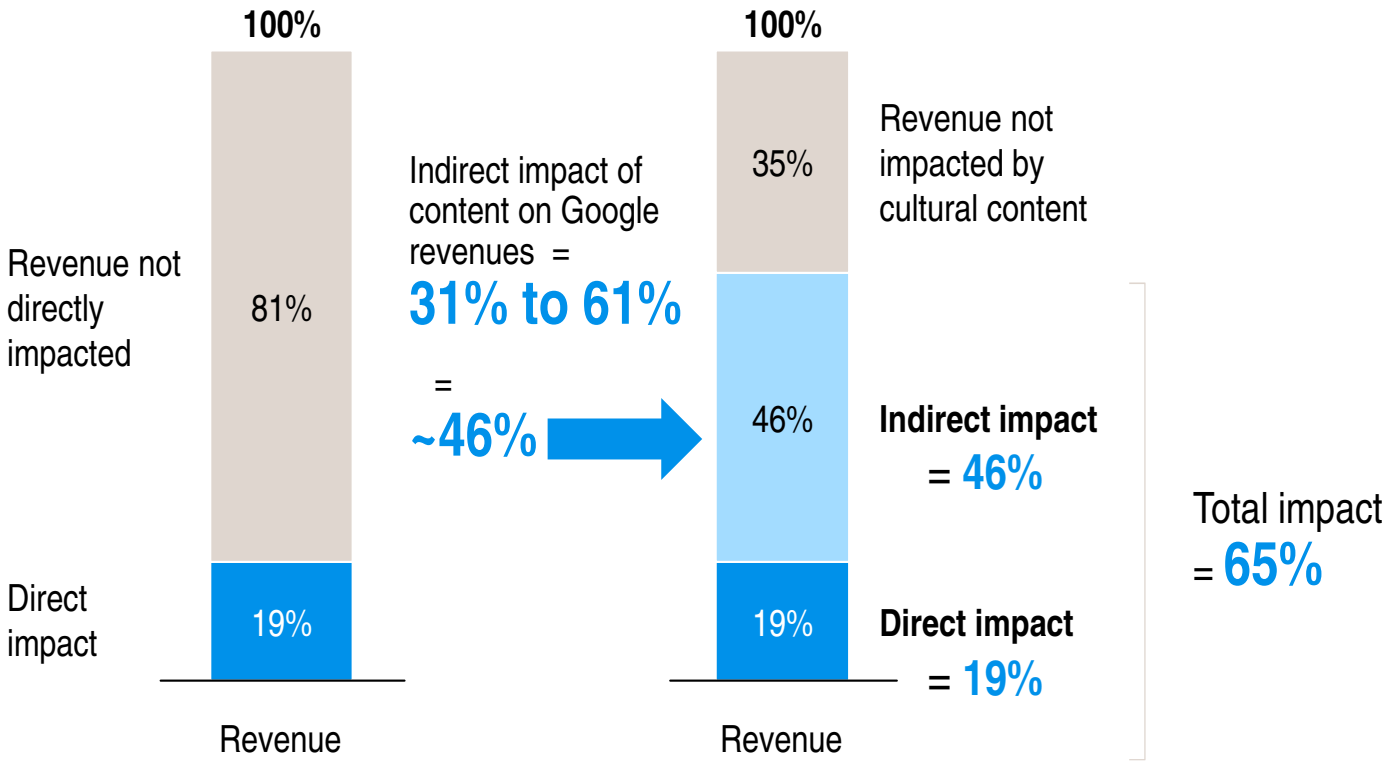
Roland Berger Strategy Consultants

Cultural content could therefore have contributed to 65% of revenue in 2014 in country B

Calculation of the cultural content direct and indirect impact on ad revenue

Google

Google Search revenue
[Country B; 2014; EUR bn]



Definitions

Contribution to ubiquity and stickiness

- Users stick to Google thanks to its efficiency as an information source
- Cultural content represents ~30% of natural clicked links (11% from press)
- Users number would significantly decrease in case Google would not be able to answer to searches in the cultural field

FINAL VERSION

Source: Passive study of Search Engines queries by Médiamétrie & Sépage for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content generates other value creation upsides, particularly through market share and brand image reinforcement

Cultural content role in implicit and collateral value creation – Search engines Google

	Value creation drivers	Key Success Factors	Cultural content impact	Rationale
Implicit	Market capitalization	Ubiquity for users and advertisers	◕	> It is key for search engines to provide the most exhaustive and relevant content in their answers and results to users > Cultural content (~30% of search) highly contributes to a good performance as compared to competitors' > This performance then improves brand image, increase market share and thus drive market capitalization
	Market share	Thoroughness/ Relevance	◕	
	Share of wallet	Ubiquity for advertisers	◔	
	Brand image	Customer stickiness	◕	
	Better understanding of users and needs	Thoroughness/ Relevance	◑	> Users' online behaviors relating cultural content contributes to helping search engines analyze users' profiles and needs > Then search engines can improve content thoroughness/relevance accordingly > Customer stickiness should increase as well
	Customer data monetization	Customer targeting	◔	
	Machine learning	Customer stickiness	◔	
Collateral	Direct value creation on sites embedding content from public cloud services		○	

➜ **Very high contribution but no barriers to entry**

FINAL VERSION

Source: Roland Berger analysis

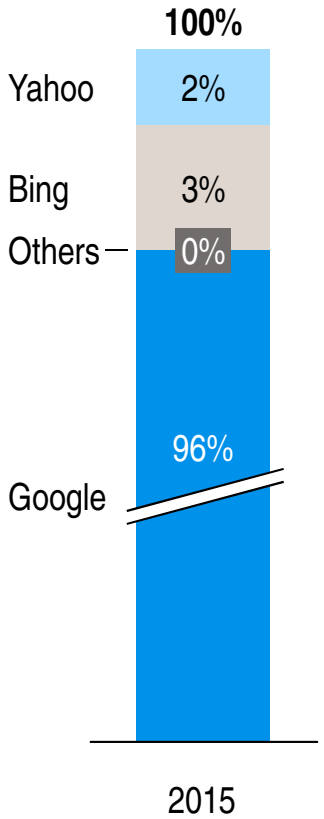
Roland Berger Strategy Consultants

Implicit value creation allows Google to maintain its near-monopoly situation, despite low switching costs for users and advertisers

Implicit value creation role in Google monopoly – Search engines

Google

Search engines market shares
[Europe; 2014; # of users]



Search engine model key insights

- Long term resilience
- Standard services provided to users from one engine to another
- Low switching costs for users and advertisers

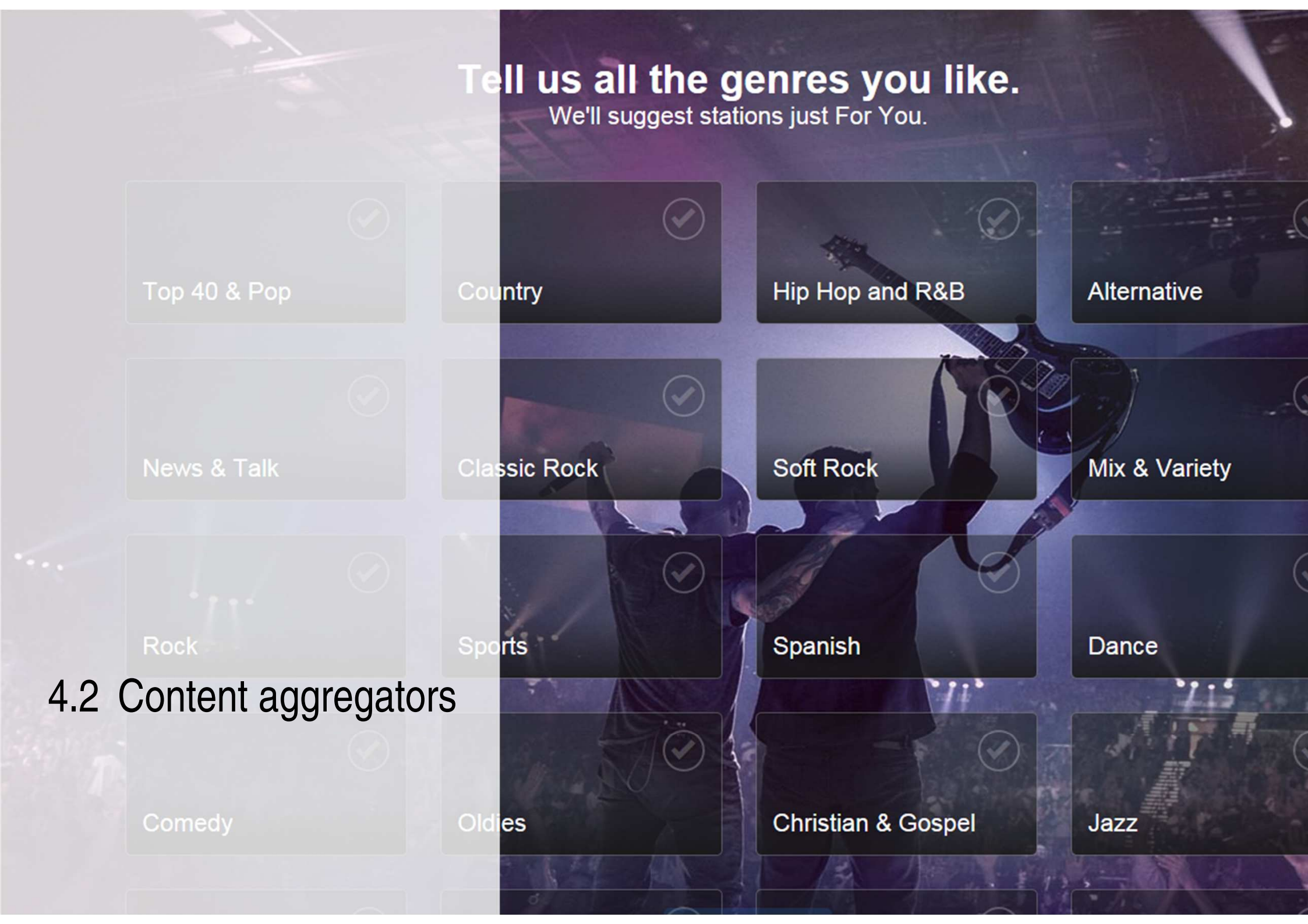
Key stake for Google

Near-monopoly situation

Implicit value creation

FINAL VERSION

Source: Statista, Roland Berger



4.2 Content aggregators

Roland Berger Strategy Consultants

Content aggregators are made of publisher-based content interface, redirection platforms and P2P portals

Technical intermediaries description – Content aggregators

Who are they?

Publisher-based content interface

iHeart RADIO

tunein

Highly comparable

Redirection platforms

tracks

Can I Stream.it?

bop

THE HYPE MACHINE

Illegal – P2P portals and Redirection platforms

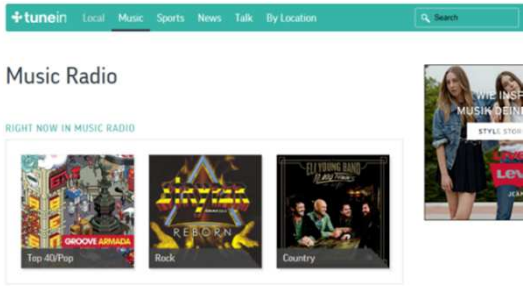
KICKASS Torrents

The Pirate Bay

STREAM

popcorntime

Why are they important?



- **Websites revenue model directly linked to cultural content distribution** => **Indexation of musical and video content** from hosting websites or editors websites
- Publisher-based content interfaces and Redirection platforms **benefit from cultural content hosted on legal platforms** with no compensation to right holders
- P2P portals and Redirection platforms benefit from cultural content often shared illegally, with no compensation to right holders

How do they generate revenue?

Main revenue generation approach

- Display ads

Main revenue generation levers

- Available inventory
- Valuation of the inventory

FINAL VERSION

Source: European Technographics online benchmark survey, 2013, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content contributed ~85% to the 2014 online music aggregation service market (i.e. EUR 85 m)

Europe – Extrapolation of Tunein analysis on the online aggregation music service market

Methodology – Volume market share

> **European content aggregators revenue** impact by directly and indirectly **cultural content** has been estimated **based on Tunein revenue**

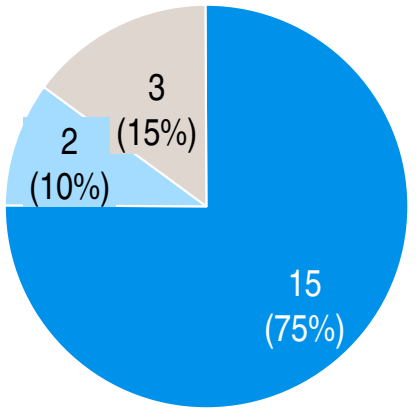
> **Tunein market share is assumed of 20% on online music aggregators in 2014**, having a leading position in a however fragmented market

Results

tunein

∑ = EUR 20 m

20% of the market

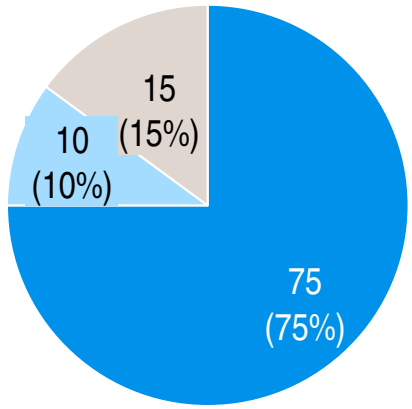


Total impact = EUR 17 m

Europe

∑ = EUR 100 m

100% of the market



Total impact = EUR 85 m

Direct impact of cultural content

Indirect impact of cultural content

Revenue not impacted by cultural content

FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Publisher-based content interface and redirectors are highly comparable, but strongly differ from P2P and rip-based redirection platforms

Content aggregators

A Publisher-based content interface and Redirection platforms: tunein

- **Tunein chosen as the main benchmark for the categories**
- **World's largest audio network** with over 100,000 real radio stations and four million on-demand programs and podcasts
- **Partnerships with broadcasters** to offer cultural content to listeners (CBS, NPR, …)
- **Free website and application**
- Revenue model based on **display advertising**
- Raised **over USD 47 m in venture funding** in 2012 and 2013

B P2P portals and rip-based redirection platforms : General Overview

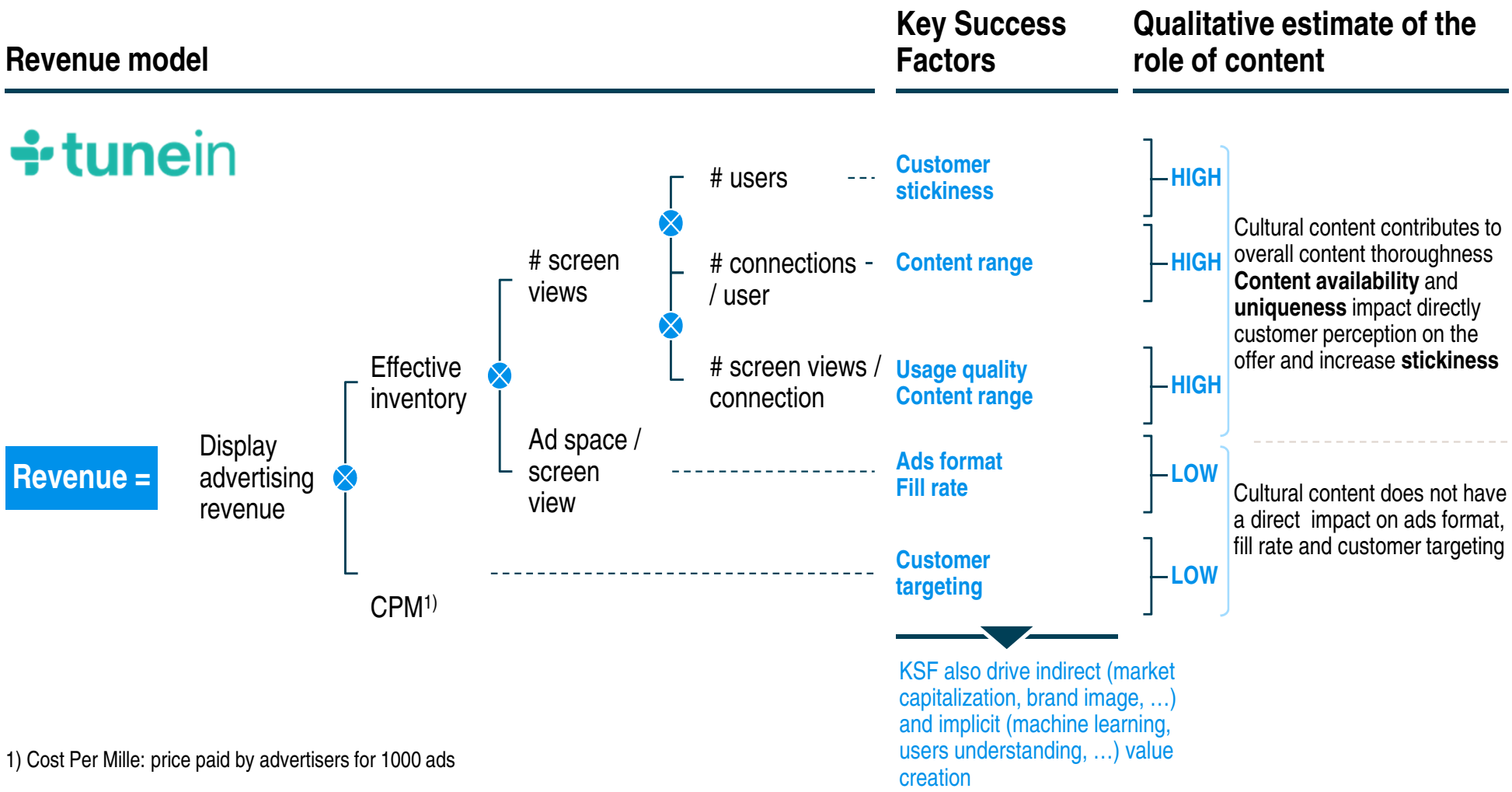
- **P2P portals** generate more revenue (through advertising) than the other "rip-based" segments, as they represent **2/3 of "rip-based" content aggregators revenue**
- **Low barriers to entry** for redirection platforms results in a multitude of small sites (40% of redirection platforms)
- **Redirection platforms** accounts for **1/3 of "rip-based" content aggregators revenue**
- Despite P2P portals and redirection platforms' notoriety as sources of illegally shared content, **premium brand ads** frequently appear on these websites (13% on large portals, 29% of large redirection platforms)

Source: Tunein corporate website, Digital Citizens Piracy report, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content (radio/music for Tunein) is at the heart of Publisher-based content interface and Redirection platforms value proposition

Content role in Content aggregators business model



1) Cost Per Mille: price paid by advertisers for 1000 ads

Source: Roland Berger analysis

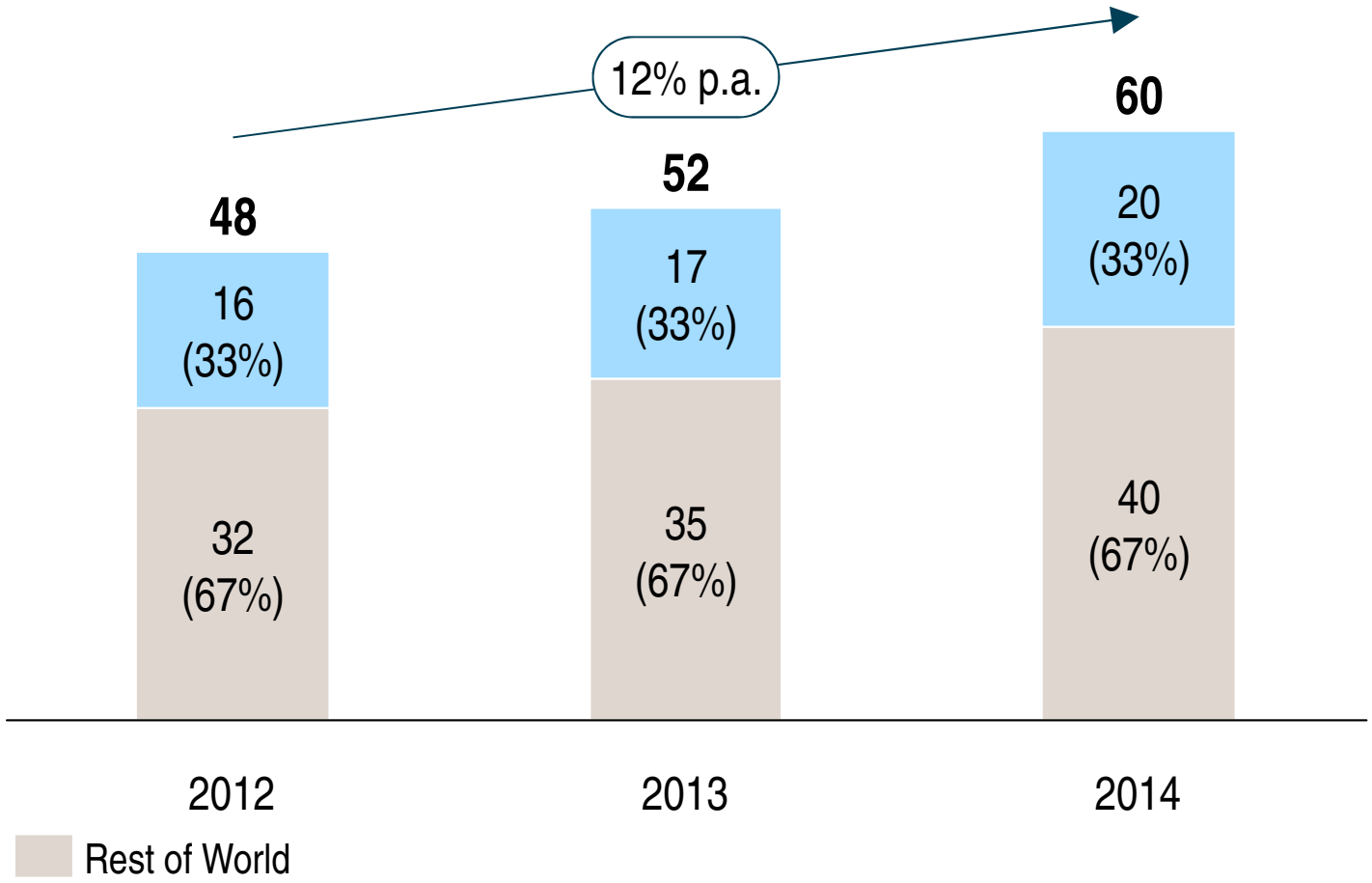
FINAL VERSION

Roland Berger Strategy Consultants

With ~EUR 20 m revenue in 2014, Europe accounts for one third of Tunein global revenue

General key metrics – Revenue [World; EUR m]

tunein



1) Europe: proxy based on press review

Source: Tunein corporate website, press, Roland Berger analysis

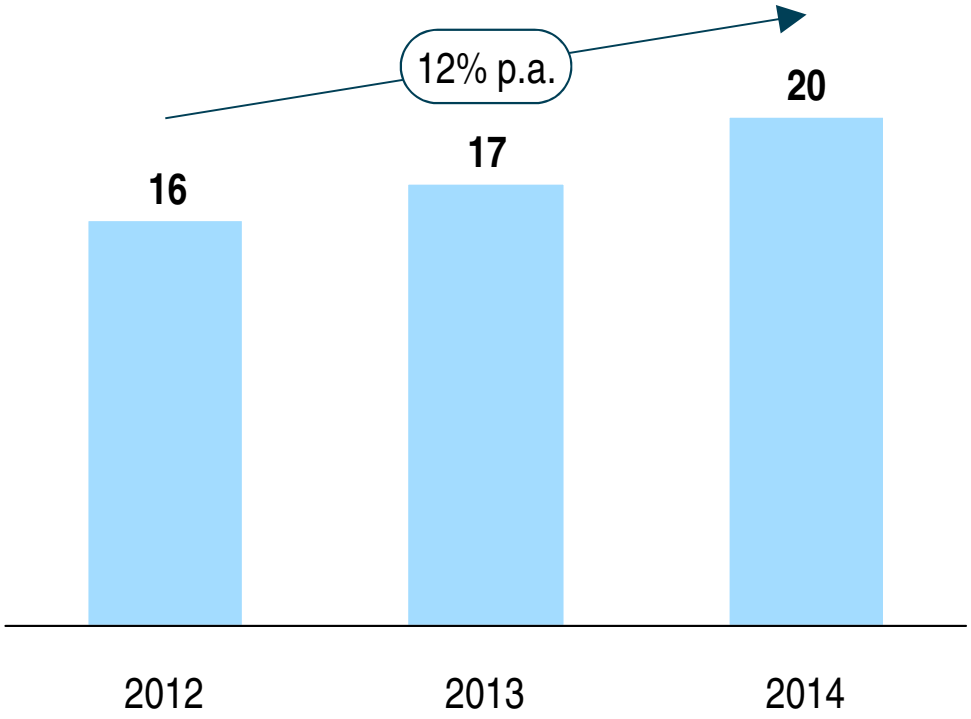
Roland Berger Strategy Consultants

Tunein revenue in Europe grew by 12% p.a. over 2012-2014 – Royalties amount to about 48% of revenue in 2014

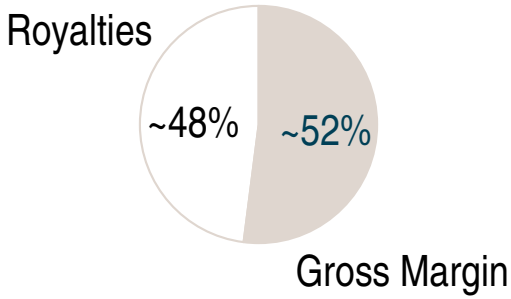
Financial key metrics

tunein

Europe[1] revenue [2014; EUR m]



Key metrics [Global; 2014]



1) Europe: proxy based on press review

Source: Tunein corporate website, press, Roland Berger analysis

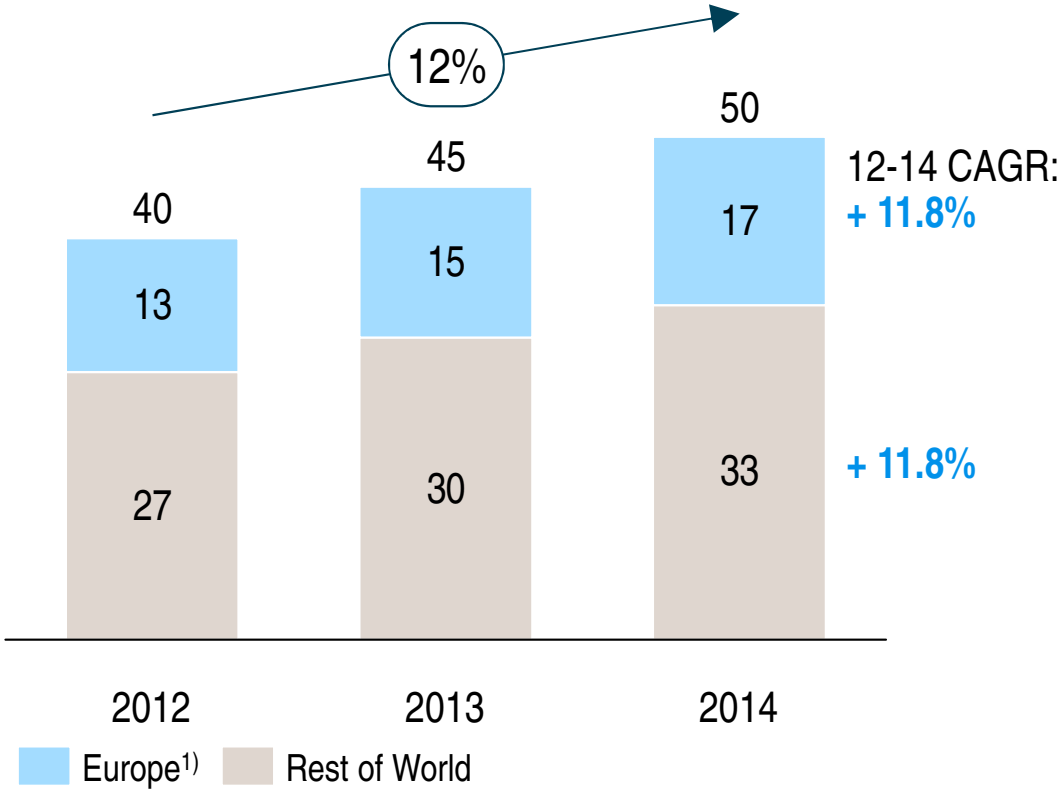
Roland Berger Strategy Consultants

Tunein monthly active user base in Europe increased at a 12% p.a. over 2012-2014, reaching 17 m monthly active users

Customer metrics

tunein

Number of monthly active users [World; m users]



Other key figures [2014]

100 000	live radio stations broadcasted worldwide
4 m	podcasts streaming worldwide
5.5 bn	hours of online radio listened in Europe per year
230	countries and territories worldwide

1) Europe: proxy based on press review

Source: Tunein corporate website, press, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content has 85% impact on Tunein revenue, mostly due to a strong direct impact of broadcast cultural content

Synthesis of cultural content impact on overall value creation

tunein

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
A.1	Direct impact on revenue [EUR m]	15	75%	> News & music played on the radio represent ~75% of broadcasted content and contributes directly to Tunein's revenue
A.2	Indirect impact on revenue [EUR m]	2	10%	> Traffic and usage are driven by the attractiveness of the radio offer, i.e. mostly news and music > Cultural content drives 85% of customers' ubiquity and adherence
	Total impact for Tunein	**17**	**85%**	> Overall, cultural content contributes to both the majority of broadcasted content and users adherence and stickiness to the website > The almost entire business model and value creation of Tunein depends directly or indirectly of cultural content, i.e. 85% of revenue
A.3	Implicit value-creation levers	NA	NA	> Cultural content large range and variety contributes to adherence of users to content aggregators and therefore to market share and brand image among others

FINAL VERSION

Source: Tunein corporate website, press, Roland Berger analysis

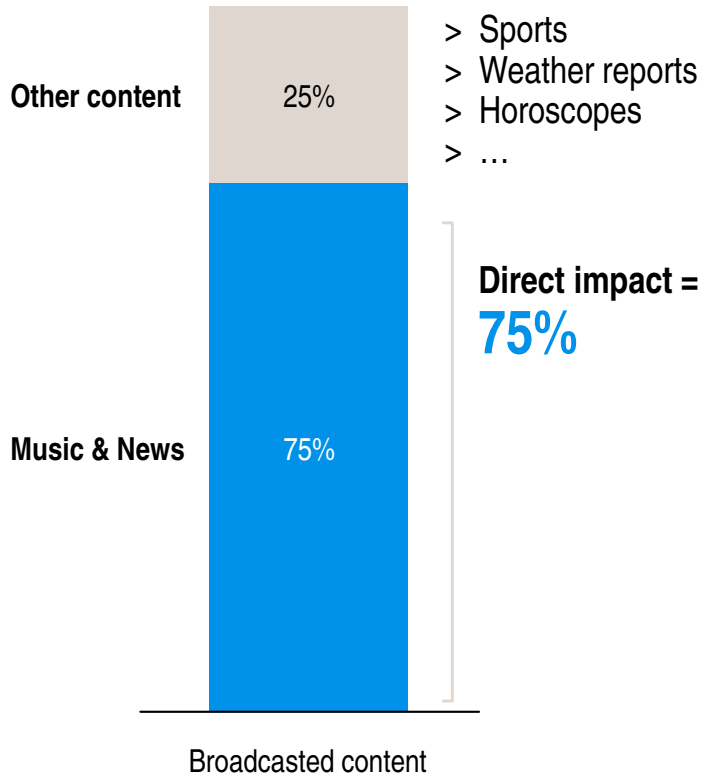
Roland Berger Strategy Consultants

TuneIn being a radio aggregator, audio cultural content is at the heart of its direct revenue generation…

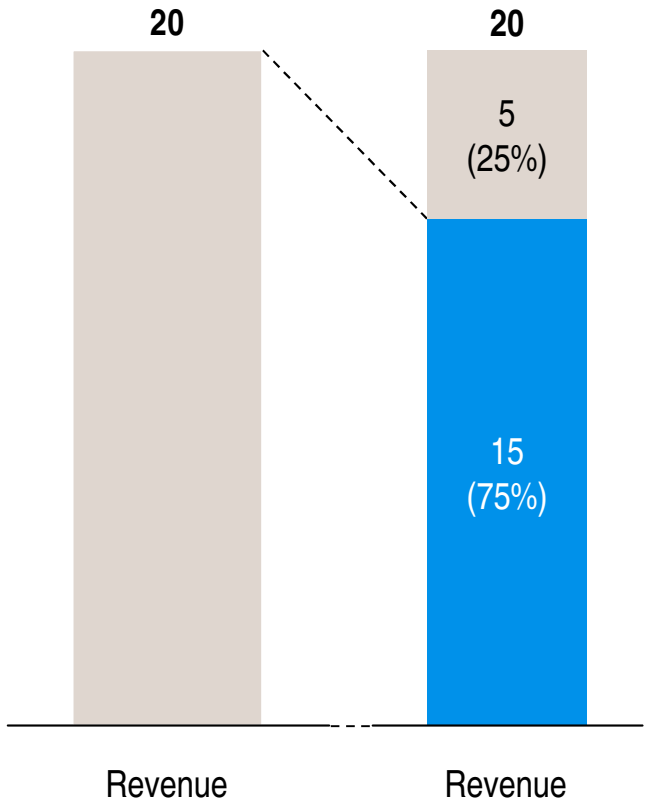
Calculation of the cultural content direct impact on revenue

tunein

A.1 Direct impact – average share of cultural content on radio stations[1)]



Impact on TuneIn revenue



1) Based on press review data

Source: Tunein corporate website, press, Roland Berger analysis

Roland Berger Strategy Consultants

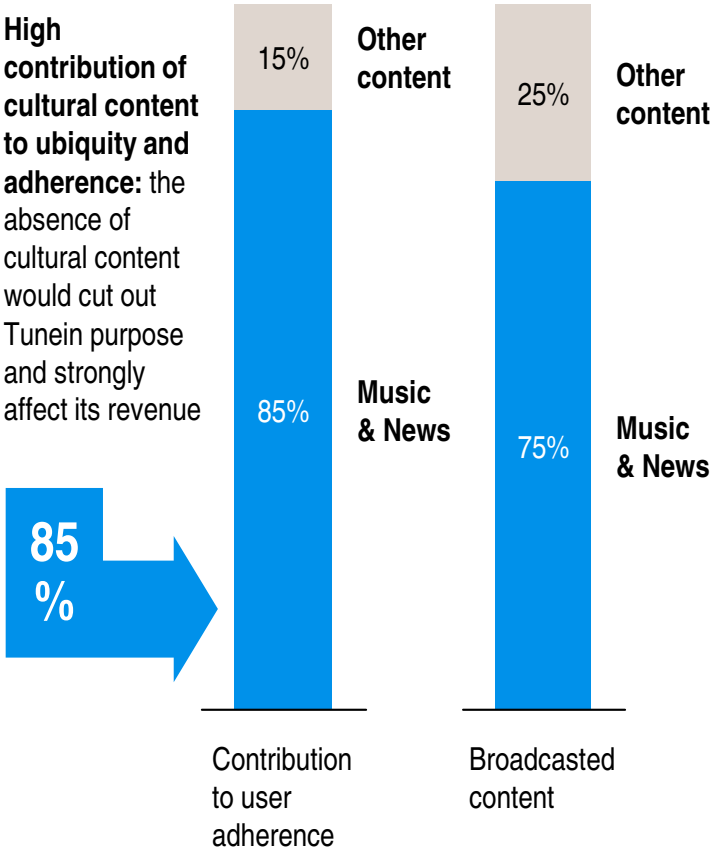
… as well as its indirect revenue generation, as Music and News drive strong ubiquity and adherence

Calculation of the cultural content indirect impact on revenue

tunein

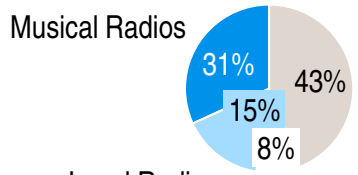
A.2 Indirect impact – contribution to ubiquity and adherence

High contribution of cultural content to ubiquity and adherence: the absence of cultural content would cut out Tunein purpose and strongly affect its revenue



Rationale – Illustration of audience and offers

– Share of weekdays audience per type of radio



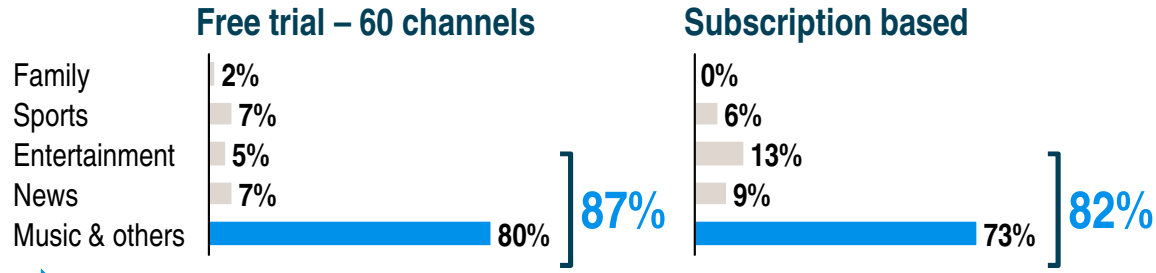
General Radios ▶ **of which RMC / BFM ~7%**

Thematic Radios ▶ **of which France Info ~3%**

> "Pure talk" / information radios represent only 10-15% of audience
> In 2015, <15% of auditors are exclusive to one radio station

– Example of SiriusXM free and subscription-based offers

SiriusXM : satellite radio aggregating radios to listen to in the car, or on computers, smartphones and tablets



Non "cultural content centric" radios represent 10-15% of the offer

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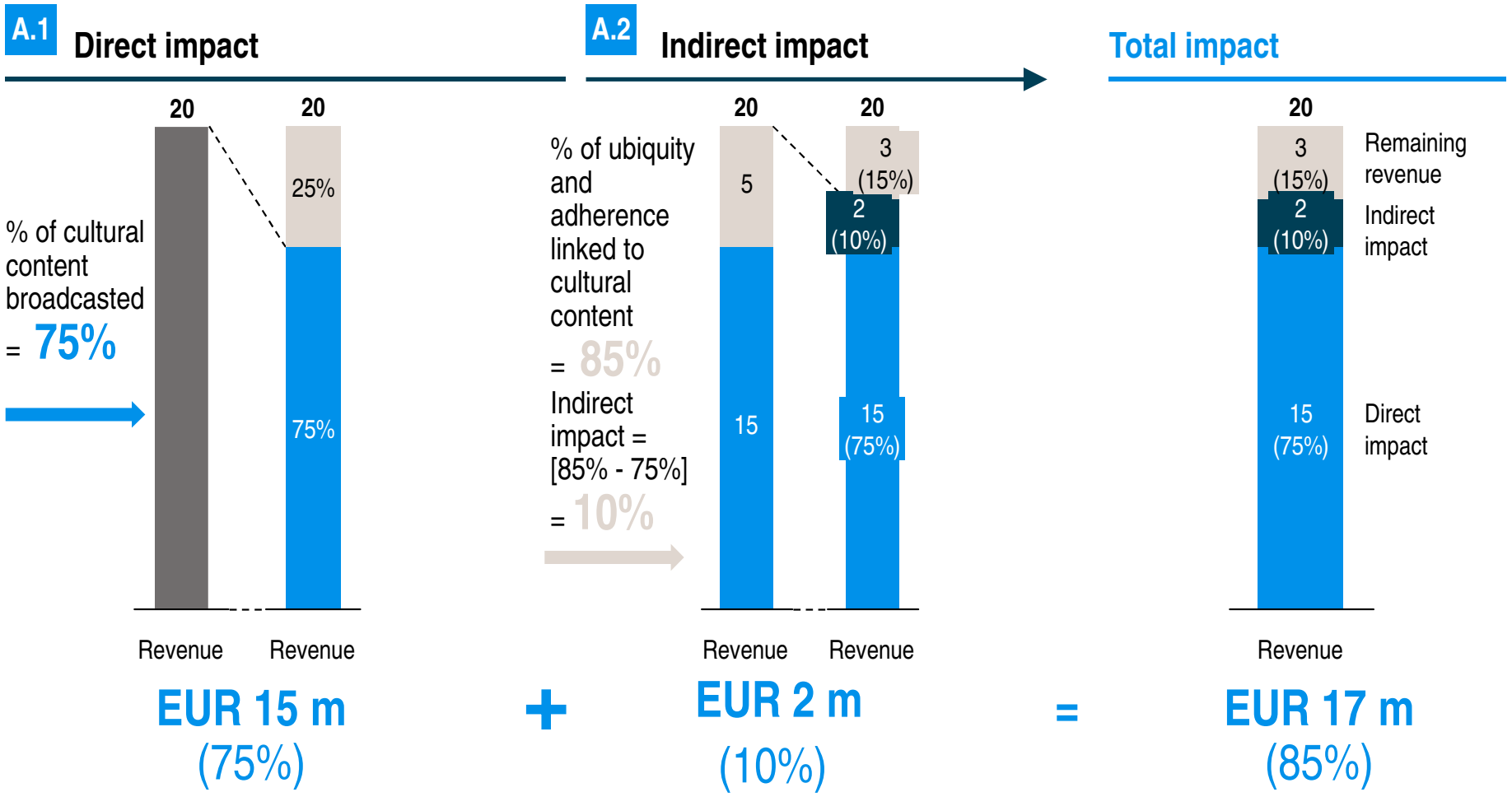
Source: Tunein corporate website, press, Mediamétrie Study Q1 2015, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content has an overall impact of EUR 17 m on Tunein revenue in Europe [EUR 15 m direct and EUR 2 m indirect]

Calculation of the cultural content direct and indirect impact on revenue

tunein



Source: Tunein corporate website, press, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content plays a major role in content aggregators business models, mainly driven by market share – oligopolistic paradigm

tunein

Cultural content role in implicit and collateral value creation – Content aggregators

	Value creation drivers	Key Success Factors		Cultural content impact
Implicit	Market capitalization	Customer stickiness		○
	Market share	Content range		●
	Share of wallet	Content range	Usage quality	○
	Brand image	Content range	Usage quality	◑
	Better understanding of users and needs	Content variety		◔
	Customer data monetization	Customer targeting		○
	Machine learning			○
Collateral	Direct value creation on sites embedding content from public cloud services			○

Rationale

> Key condition to be a successful content aggregator is to **attract as many users as possible** on its platform

> Thus, it is necessary to offer a **wide range of content** to **address** most users' **needs**

> **Cultural content** highly contributes to diversifying the content of these platforms and **building a broader user base**

> Variety of content enable content aggregators to understand users preferences in term of content and therefore in term of future needs

➜ **High contribution: core business of Tunein**

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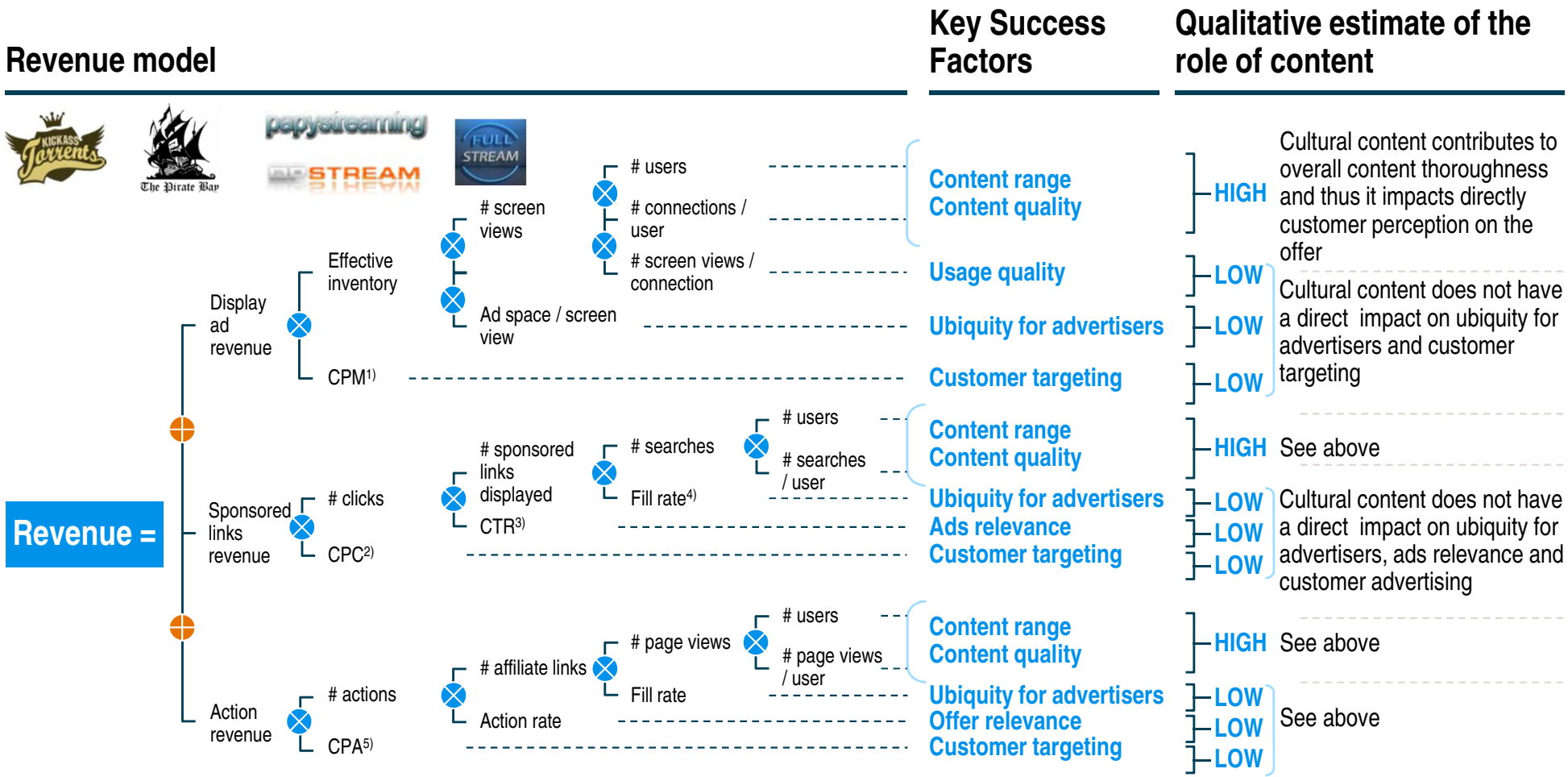
Source: Roland Berger analysis

Roland Berger Strategy Consultants

Illegal streaming platforms and P2P portals have an ad-based revenue model combining display, sponsored links and action

Content role in Content aggregators business model



1) Cost per Mille: price paid per thousand advertising impressions 2)Cost Per Click: price paid by advertiser per sponsored link clicked by user 3) Click Through Rate: number of click per sponsored link 4) Average number of sponsored links per search 5) Cost per Action: price paid by advertisers for each specified action

Source: Roland Berger analysis

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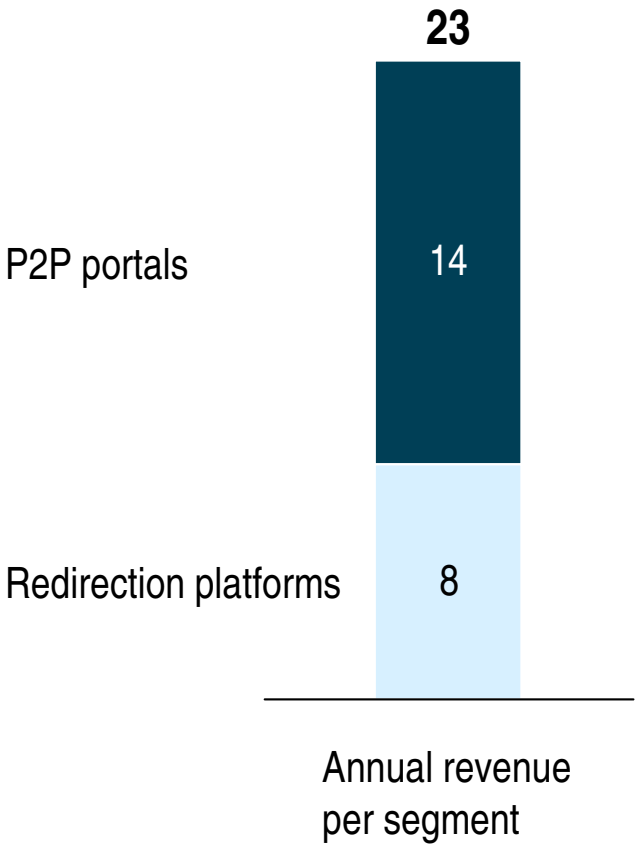
Roland Berger Strategy Consultants

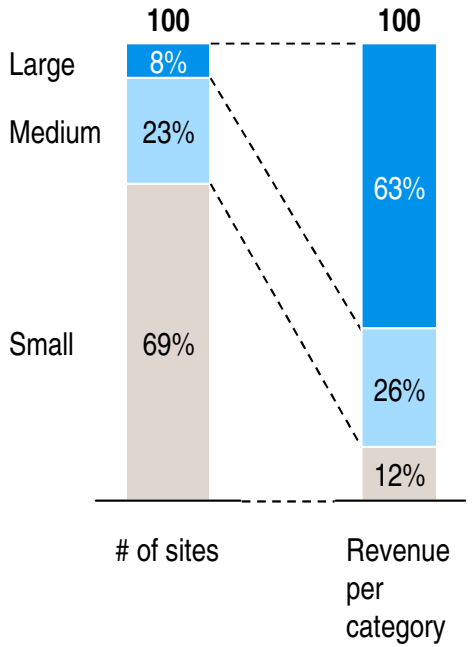
P2P content aggregators and "rip-based" content redirection platfomrs represent EUR 23 m revenue, concentrated on P2P

Focus on P2P portals and redirection platforms

Total revenue per segment
[Europe; 2013; EUR]



Distribution of global revenue
[EUR m]



85% Average operating margin in 2013

100%
of cultural content
→ 100%
of revenue linked to cultural content

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Source: Digital Citizens Piracy report, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content on P2P portals and "rip-based" content redirection platforms could have generated EUR 1.9 bn of value in 2013

Assessment of potential value creation by illegal content aggregators [2013]

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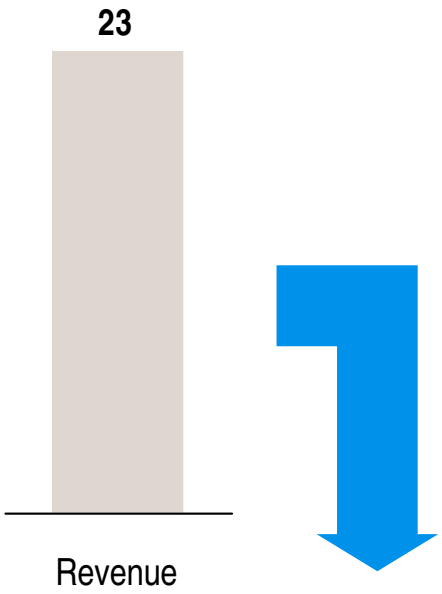
Present situation



Annual rights gathered
EUR 0 m

Assumptions

> **25% discount on Netflix's rights payment benchmark**

> **55 m of users in Europe in 2014**

Potential of value generation

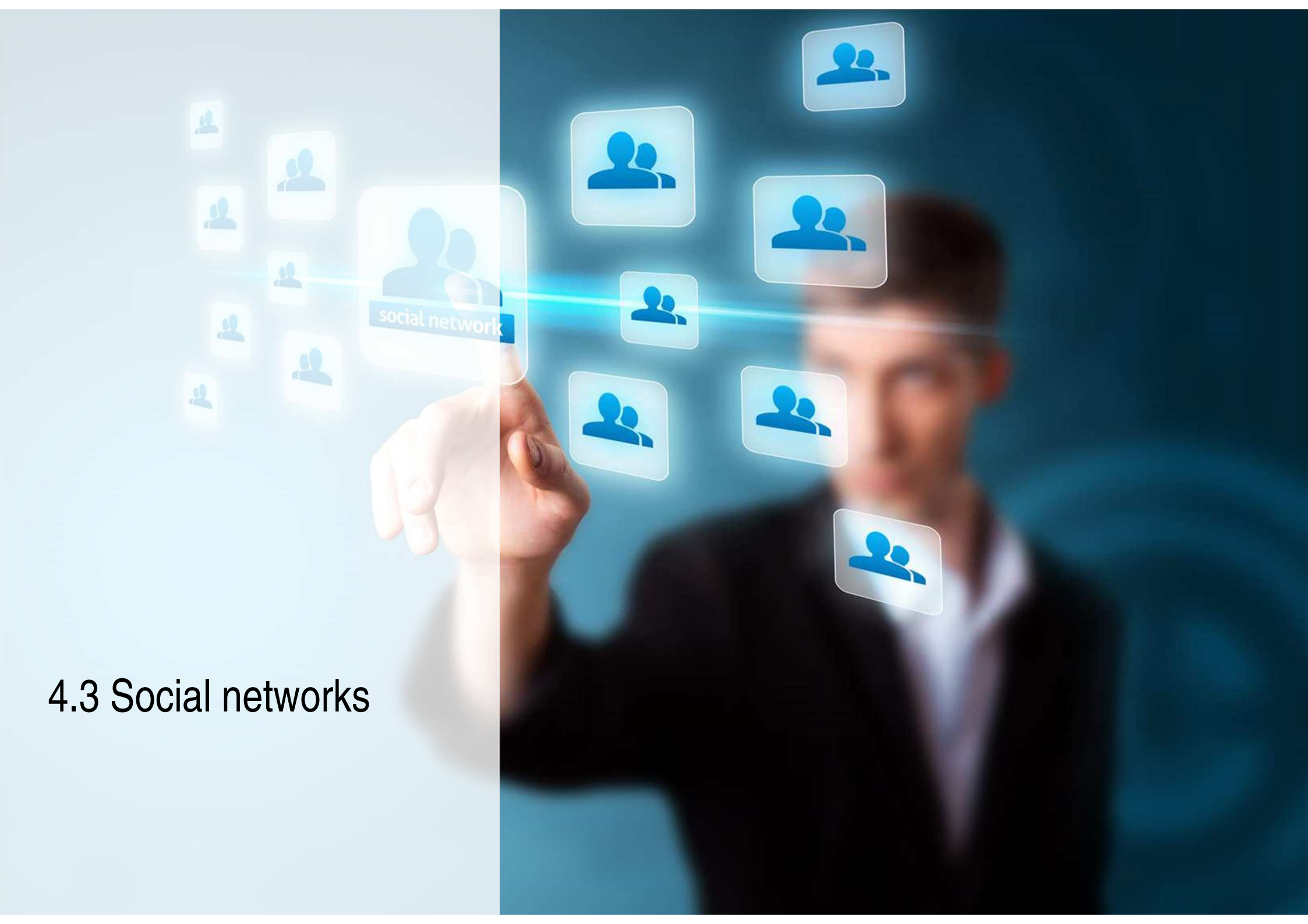
 # users [millions]

75% of Netflix cost of content acq. / user [EUR]

55 x **34.3**

Value that could have been generated **EUR ~1 900 m**

Source: Digital Citizens Piracy report, Roland Berger analysis



4.3 Social networks

Roland Berger Strategy Consultants

Social networks in Europe are in an oligopolistic situation, with vertical specialists (social, professional, information, photography, etc.)

Technical intermediaries description – Social networks

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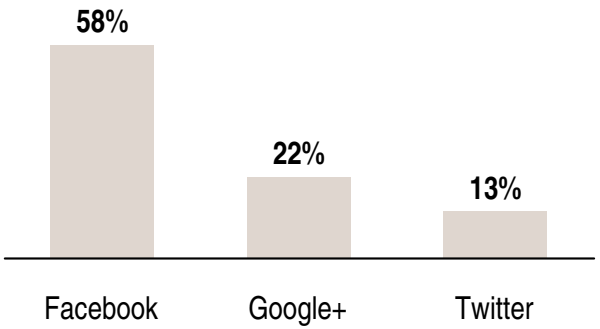
Who are they?

facebook, Instagram (Fast beautiful photo sharing), +g, Pinterest, flickr, Skyrock, twitter, viadeo, studiVZ (DAS STUDIVERZEICHNIS), LinkedIn, tumblr., Blogger

Penetration of leading social networks

[Europe; 2013; % of respondents]



Why are they important?

> Personal / public content sharing with the public or the private sphere
> Displaying content from various sources :
  – User generated content
  – Embedded content from public clouds companies

How do they generate revenue?

Main revenue generation approach

> Native advertising
> Sponsored links
> Display ads

Main revenue generation levers

> Available inventory
> Valuation of the inventory

Source: European Technographics online benchmark survey, 2013, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content contributed ~70% to the 2014 European social network market (i.e. EUR 2 bn), out of which ~43% directly

Europe – Extrapolation of Facebook analysis on the social network market

Methodology – Value market share

> **European social network revenue** coming directly and indirectly **from cultural content** was analyzed **based on Facebook advertising revenue** and **share of social network ad spending** (in value)

> **Social network ad spending**[1] totaled **EUR 3.2 bn** in Europe in 2014

> Hence, with advertising revenue of EUR 2.5 bn**, Facebook share in value amounted to ~78% in 2014**

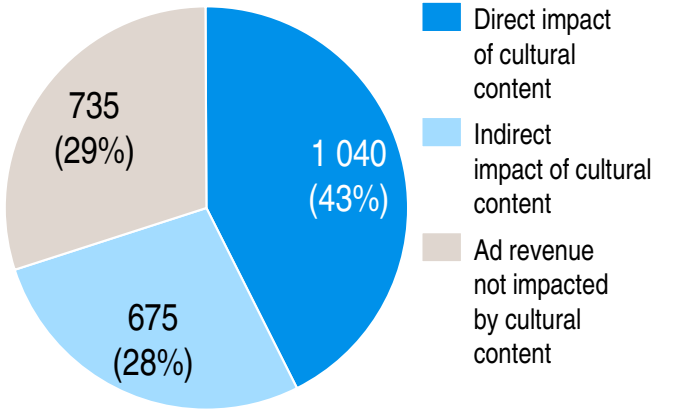
> In comparison, Twitter share in value amounted to ~8% in 2014, which is consistent with penetration figures in Europe

Results

facebook

∑ = EUR 2 450 m

78% of the market

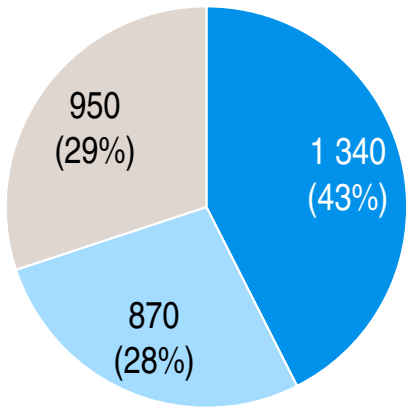


Total impact = EUR ~1 715 m

Europe

∑ = EUR 3 160 m

100% of the market



Total impact = EUR ~2 210 m

1) Excluding professional social networks (LinkedIn and Viadeo)

Source: eMarketer, Press, Roland Berger analysis

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Roland Berger Strategy Consultants

Cultural content does not directly contribute to Professional networks revenue, though driving adherence to a very small extent

Professional network revenue model – LinkedIn & Viadeo

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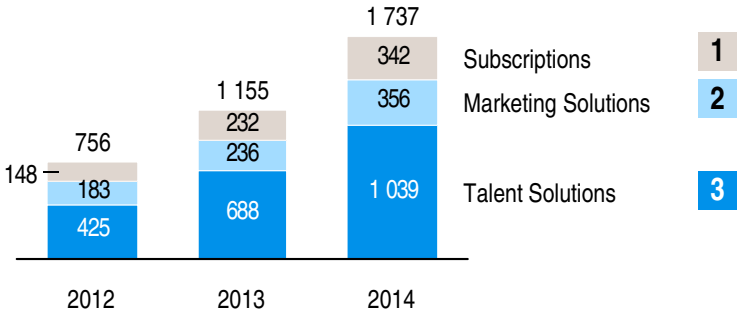
LinkedIn

Revenue per segment
[Global; EUR m]



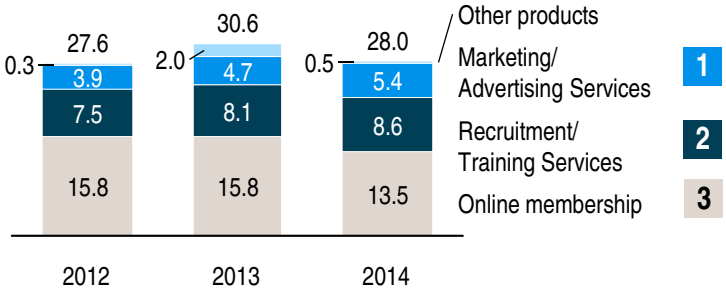
Segment Description

1 > LinkedIn provides **various services** to address the needs of **business users**, **recruiters**, **unemployed** users and **sales professionals**

2 > **LinkedIn advertisers pay-per-click** through **targeted ads** based on profile criteria

3 > **Recruiters** and **corporates** pay for:
- **Branded corporate page**
- Pay-per-click through targeted **Job ads**
- Access to the **database** of LinkedIn users and resumes

Viadeo



1 > **Recruiters and corporations pay for:**
- **Job offers**
- Access to the **member database** via a specialized interface to meet recruiters' requirements
- "Employer Brand" **communication products**

2 > **Recruiters** and **corporations** pay for **global communication campaigns** of advertising products

3 > Viadeo users pay for a **premium subscription**, providing a broader range of features

Impact of cultural content on revenue

> LinkedIn and Viadeo **revenue** are **not directly linked to cultural content**
> **Customer adherence** can **indirectly** be linked to a small extent to the **presence of news in the feed**

Source: LinkedIn, Viadeo, Roland Berger analysis

Roland Berger Strategy Consultants

Focus is on two leading social network examples: Facebook and Twitter

Social networks – Overview of main players

A facebook

- Global **leader in online social network** services
- Displays **various types of content** (photo, video, music, press, etc.)
- The share of **cultural content** is estimated at **51% of total content** in 2015 and mainly consists in vide games, music and visual art
- **Revenue model** is primarily based on **advertising**: **native** and **display**
- Cultural content has both **direct** and **indirect impact** on **Facebook revenue** – other value creation levers exist

B twitter

- Global leading **social network** based on **short messages**
- Displays **various types of content** (photo, video, music, press, etc.)
- The share of **cultural content** is estimated at **75% of total content** in 2015 and mainly consists in embedded content from music/video platforms as well as in artists photographs and paintings, etc.
- **Revenue model** is primarily based on **advertising** related to **promoted tweets**, **accounts** and **trends**
- Cultural content has both **direct** and **indirect impact** on **Twitter revenue** – other value creation levers exist

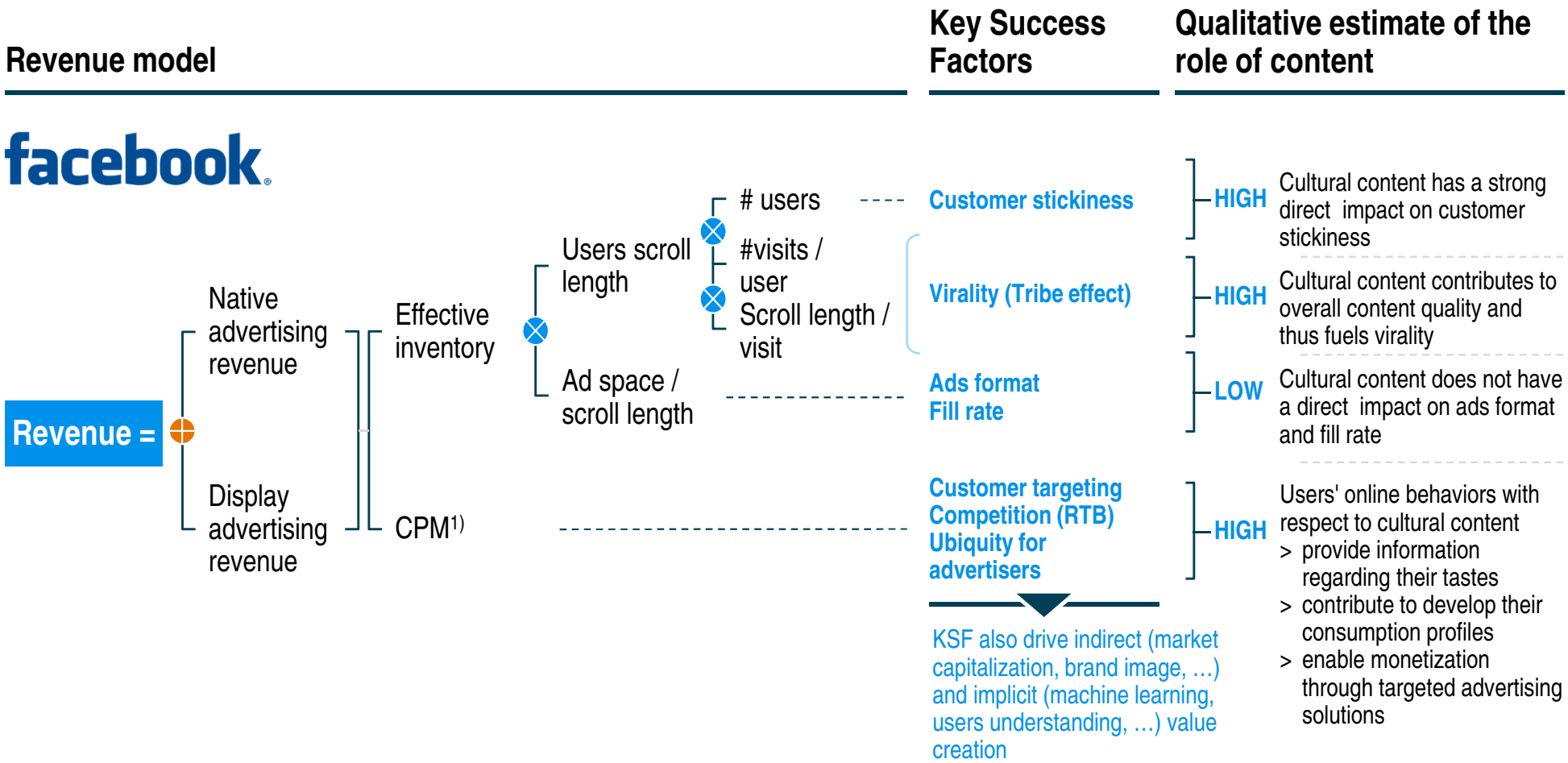
Facebook and Twitter KPIs can be used when necessary as proxies for non-documented platforms

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Contents may be seen as "fuel" for Social networks thus significantly contributing to revenue generation

Content role in Social network business model



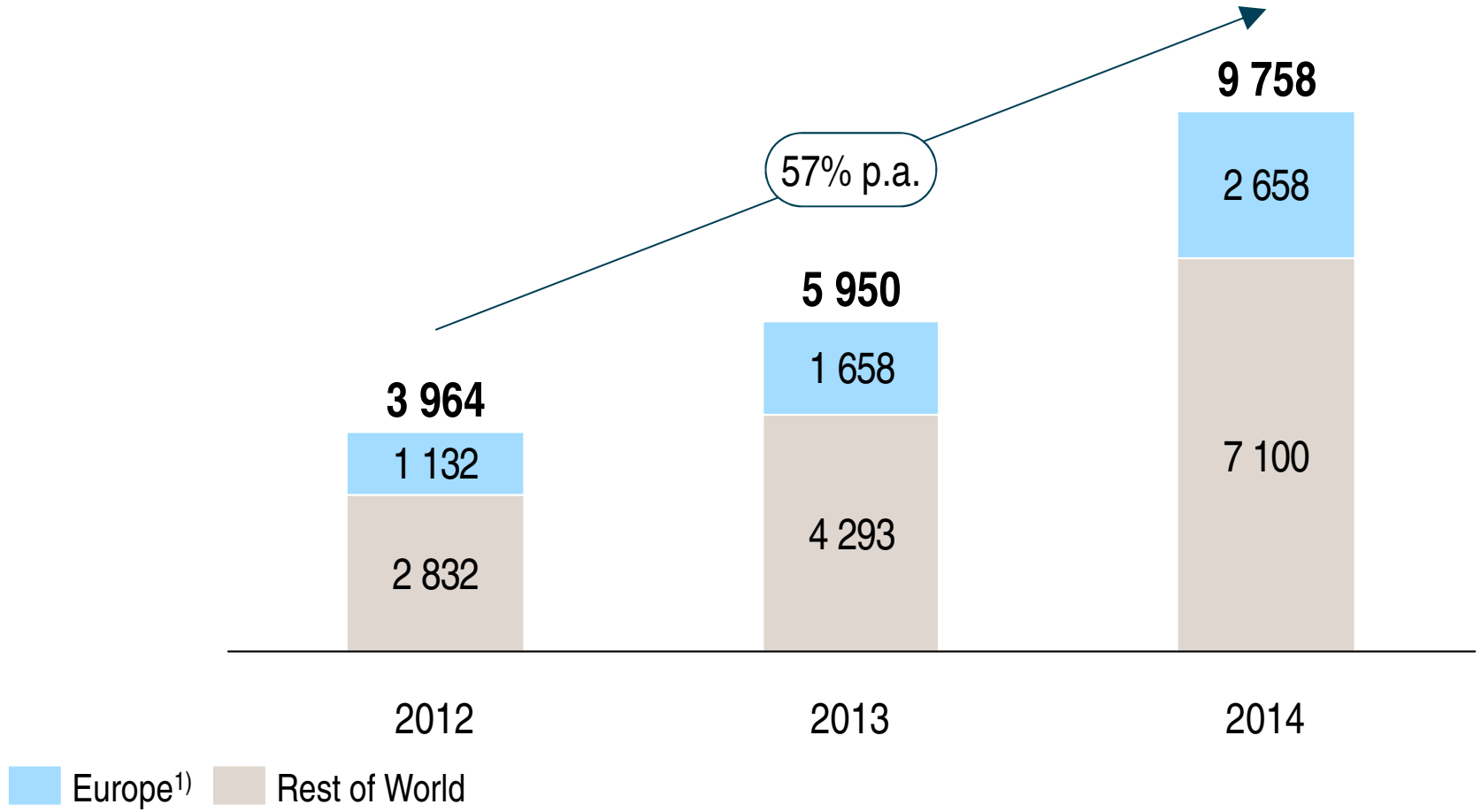
1) Cost Per Mille: price paid by advertisers for 1000 ads

Source: Roland Berger analysis

Roland Berger Strategy Consultants

With ~EUR 2 660 m revenue (28% of its global revenue), Facebook is by far the leading social network in Europe

General key metrics – Revenue [World; EUR m]



1) Europe: proxy

Source: Facebook annual reports, Roland Berger analysis

FINAL VERSION

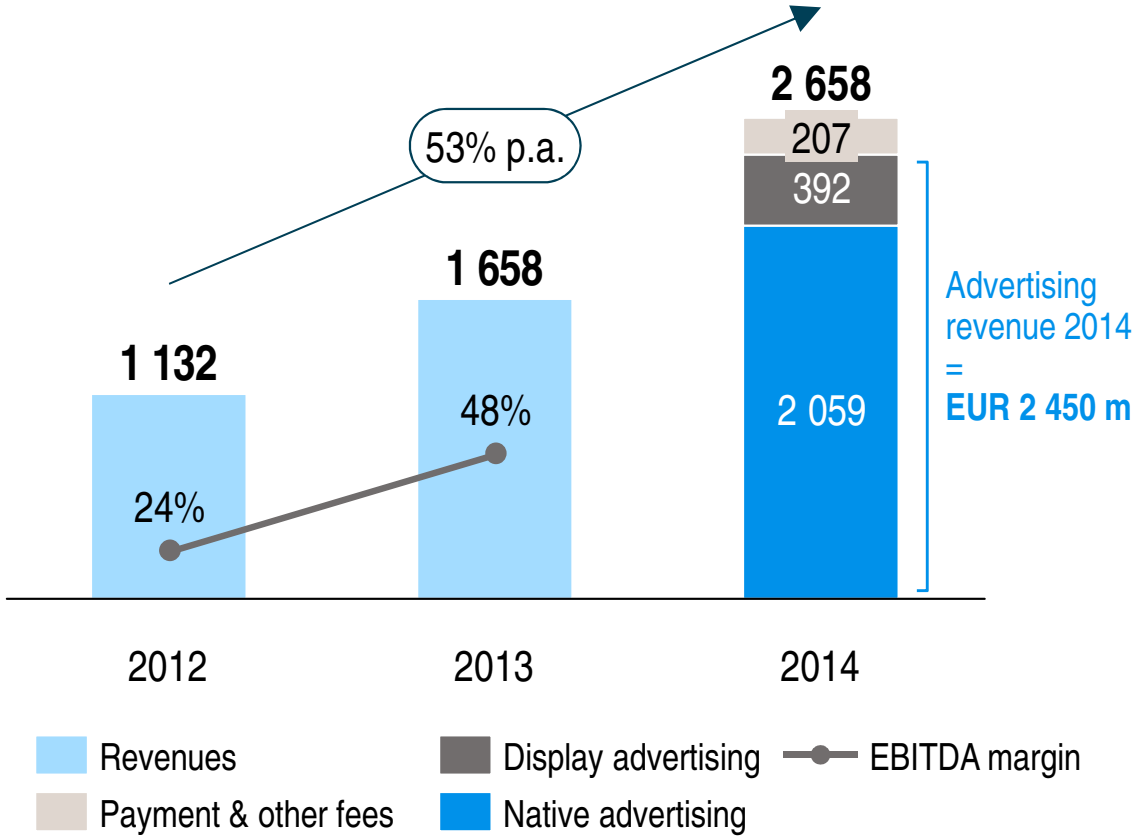
Roland Berger Strategy Consultants

Facebook revenue in Europe grew by 56% p.a. over 2012-2014, mainly driven by native advertising (77% of 2014 revenue)

Financial key metrics

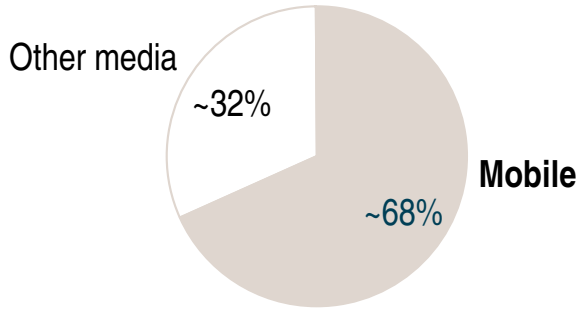
facebook

Revenue and EBITDA [Europe[1]; EUR m]



1) Europe: proxy

Revenue distribution [2014]



- Facebook **revenue** grew by **53% p.a. over 2012-2014**
- In 2014, Facebook **EBITDA margin** stood at **50%** of revenue
- **Native advertising** accounted for **77%** of Facebook 2014 **revenue**

FINAL VERSION

Source: Facebook annual reports, Roland Berger analysis

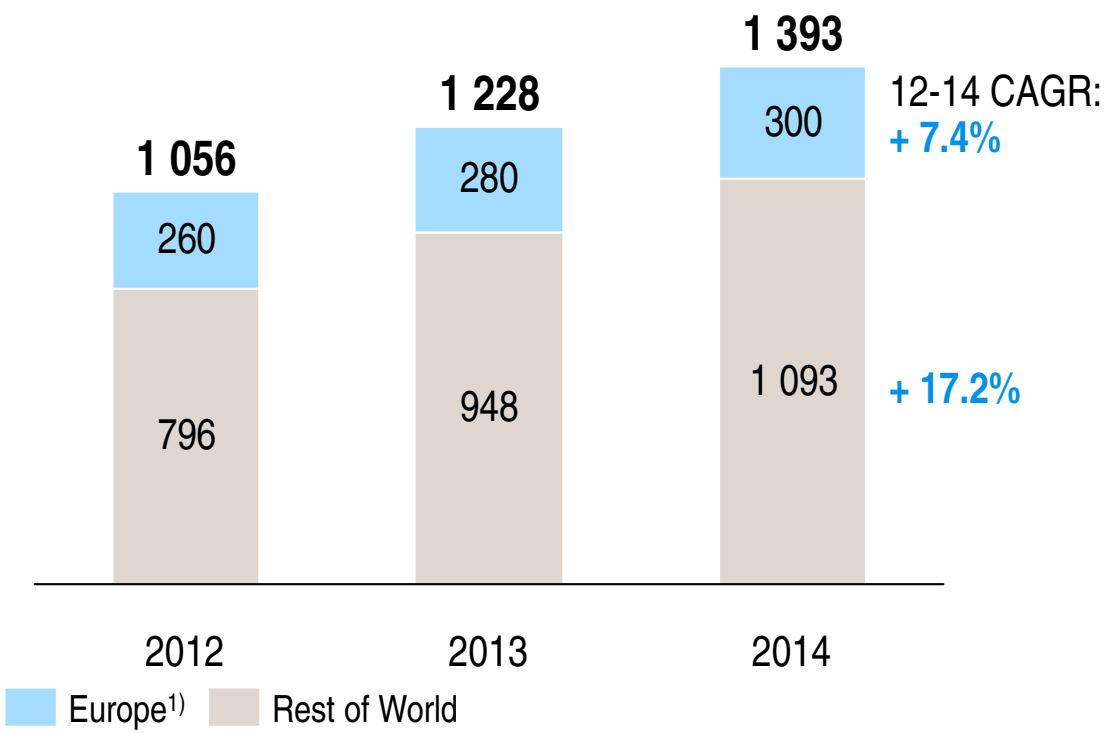
Roland Berger Strategy Consultants

Facebook monthly active user base in Europe steadily increased at a 7% yearly rate over 2012-2014, reaching 300 millions in 2014

Customer metrics

facebook

Number of monthly active users [World; million]



1) Europe: proxy

Other key figures [2014]

212 m daily active users on average in Europe (vs. 890m worldwide)

1 bn daily search requests on average worldwide

2 m active advertisers worldwide

FINAL VERSION

Source: Facebook, press, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content has a strong impact on Facebook total revenue (~70%), mostly due to the high share of cultural content shared/published

Synthesis of cultural content impact on overall value creation

facebook

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
A.1	Direct impact on revenue [EUR m]	1040	43%	> Overall, 43% of content shared on Facebook is cultural content (Music, TV, cinema, radio, video games, etc.) – 52% for country A and 33% for country B > Native advertising is 100% impacted by content whereas display advertising is not significantly impacted as it is not influenced by feed length
A.2	Indirect impact on revenue [EUR m]	675	28%	> Without cultural content, Facebook would loose stickiness, leading to an indirect loss of 28% of total action performed > Indirect impact is the average of 24% for country A and 31% for country B
	Total impact for Facebook	**1715**	**70%**	> Although it is not Facebook core function, sharing cultural content has become essential for users and highly contributes, directly or indirectly to Facebook revenue as well as to other value creation mechanisms
A.3	Implicit value-creation levers		High	> Sharing and consuming cultural content contributes to the users experience of Facebook as a social media > The type of content shared enables Facebook to better understand users needs as well as monetizing their profile

FINAL VERSION

Source: Facebook, press, Roland Berger analysis

Figures come from 2 studies perform in 2 European countries in 2015

Methodology

1. Direct and indirect impacts were estimated by the same methodology in each country

2. European estimation is based on the average of impact between these 2 countries

FINAL VERSION

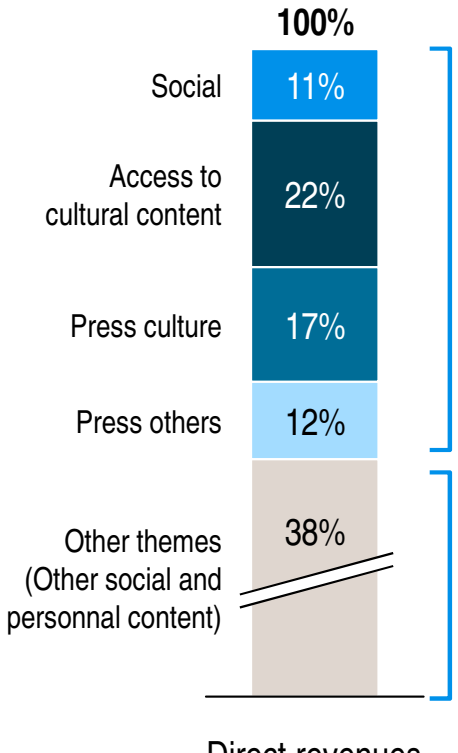
Roland Berger Strategy Consultants

An average of 62% of a user's scrolled news feed is made of cultural content

Calculation of the cultural content direct impact on revenue

facebook

Share of cultural content in posted/shared on Facebook's newsfeed [2015]



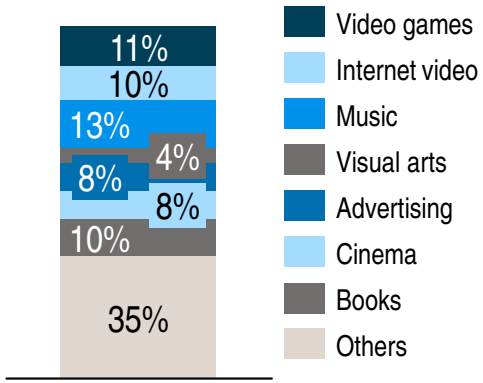
Cultural content = 62%

> Core cultural content includes: Music, TV, cinema, internet video, radio, book, video games, visual arts, advertising, …
> Other cultural content includes: Press about sport, fashion, holidays, health, etc.

Other contents = 38%

> Other contents includes : personal pictures, inspirational content (quotes, ..), UGC content (home videos, …)[2], events, …

Distribution of content posted[1]



Average share of cultural content in news feed = 62 %

1) Not exclusive (not equivalent to 100%)

2) Pure UGC i.e. without any copyrighted or protected content

Source: Corporate website, Declarative study of Facebook usage in Italy during week 4 of August 2015 by Ipsos for Italian creative and cultural industries, Roland Berger analysis

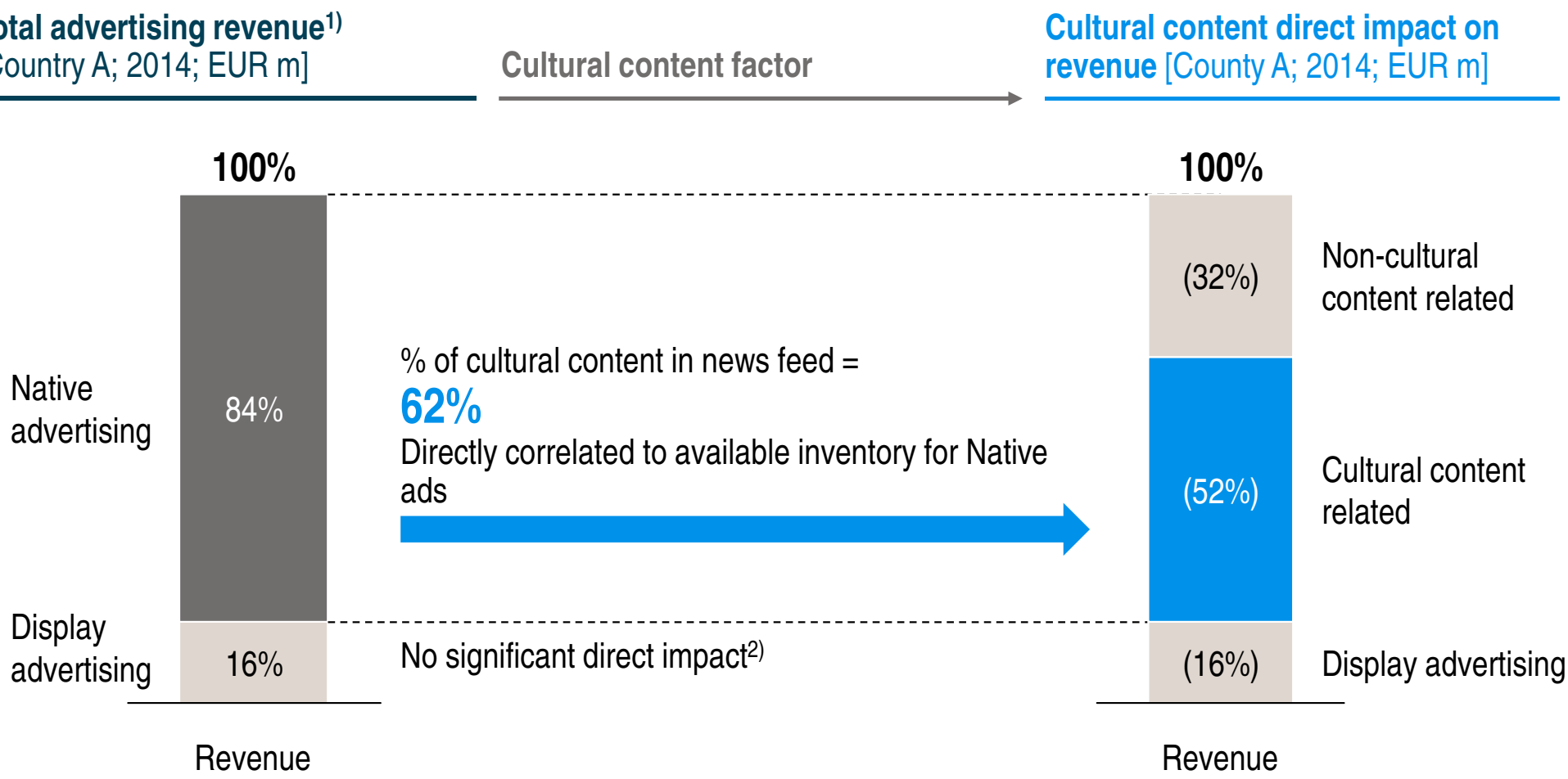
FINAL VERSION

Roland Berger Strategy Consultants

52% of Facebook's native advertising revenue is directly related to cultural content

Calculation of the cultural content direct impact on revenue

facebook



Note: 1) Proxy on revenue split in 2014 2) 0% impact of display advertising vs. 100% for native: less frequency of appearance during a visit + no visibility on mobile)

Source: Corporate website, Declarative study of Facebook usage during week 4 of march 2015 by Ipsos for creative and cultural industries, Roland Berger analysis

FINAL VERSION

Roland Berger Strategy Consultants

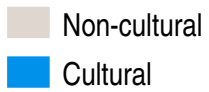
Without cultural content, Facebook would loose stickiness, leading to an indirect loss of 24% of total actions performed

Calculation of the cultural content indirect impact on revenue

facebook

FINAL VERSION

Number of cultural actions per week	Share of total users	Average # of action per user	Assumptions	Average # of action per user
Low number of cultural actions (0 to 22 cultural actions / week)	51%	7 + 27 = 34	Without culture: all users at **the same level as "low cultural content consumers"** = 27 non-cultural actions performed / users per week	27
High number of cultural actions (More than 23 cultural actions / week)	49%	135 + 225 = 360		27



Average number of action per user / week = 194

Impact on the total number of action performed = 86% less **direct impact** = 86%-62% **= 24%**

Source: Corporate website, Declarative study of Facebook usage during week 4 of march 2015 by Ipsos for creative and cultural industries, Roland Berger analysis

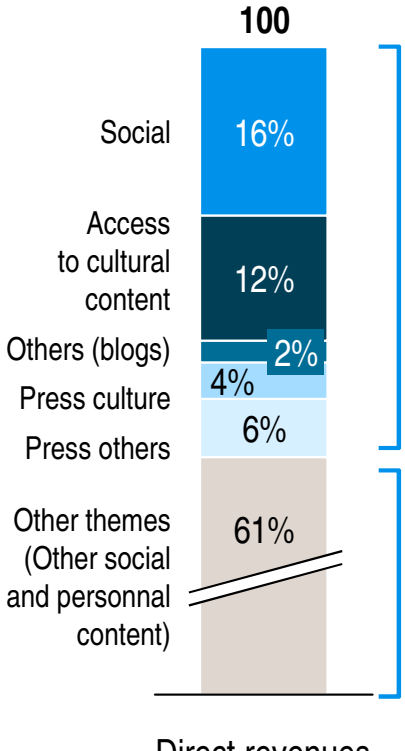
Roland Berger Strategy Consultants

An average of 39% of a user's scrolled news feed is made of cultural content

Calculation of the cultural content direct impact on revenue

facebook

Share of cultural content in posted/shared on Facebook's newsfeed [2014]



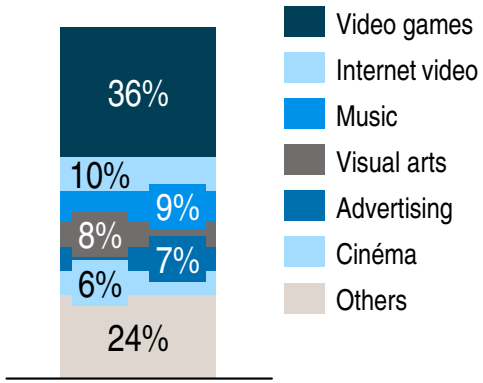
Cultural content = 39%

> Core cultural content includes: Music, TV, cinema, internet video, radio, book, video games, visual arts, advertising, …
> Other cultural content includes: Press about sport, fashion, holidays, health, etc.

Other contents = 61%

> Other contents includes : personal pictures, inspirational content (quotes, ..), UGC content (home videos, …)[2], events, …

Distribution of content posted[1]



Average share of cultural content in news feed = 39 %

1) Not exclusive (not equivalent to 100%)
2) Pure UGC i.e. without any third party content

Source: Corporate website, Declarative study of Facebook usage during week 4 of March 2015 by Ipsos for creative and cultural industries, Roland Berger analysis

FINAL VERSION

Roland Berger Strategy Consultants

33% of Facebook's native advertising revenue is directly related to cultural content

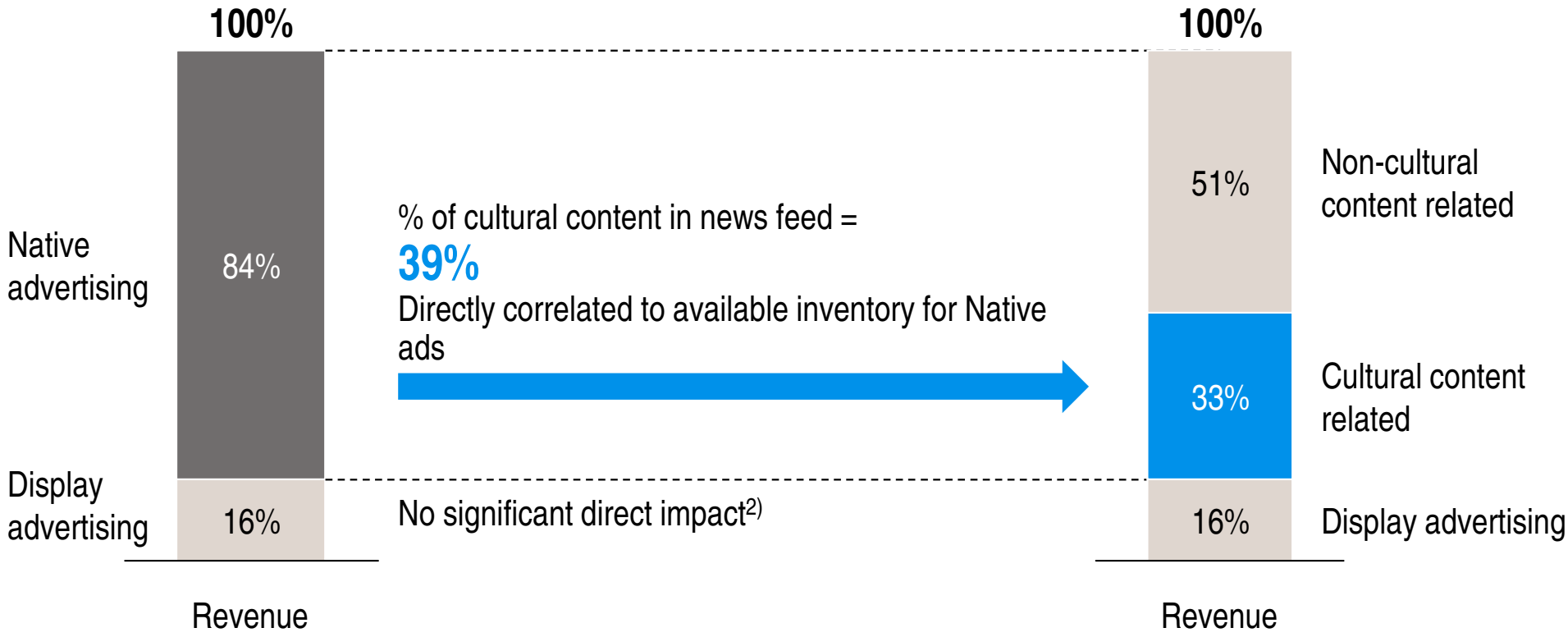
Calculation of the cultural content direct impact on revenue

facebook

Total advertising revenue[1] [Country B; 2014; EUR m]

Cultural content factor

Cultural content direct impact on revenue [Country B; 2014; EUR m]



Note: 1) Proxy on revenue split in 2014 2) 0% impact of display advertising vs. 100% for native: less frequency of appearance during a visit + no visibility on mobile)

Source: Corporate website, Declarative study of Facebook usage during week 4 of March 2015 by Ipsos for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

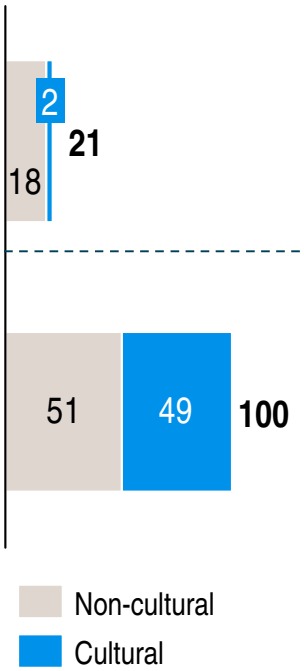
Without cultural content, Facebook would loose stickiness, leading to an indirect loss of 31% of total action performed

Calculation of the cultural content indirect impact on revenue

facebook

FINAL VERSION

Number of cultural actions per week	Share of total users	Average # of action per user	Assumptions	Average # of action per user
Low number of cultural actions (0 to 8 cultural actions / week)	50%	21 (18 + 2)	Without culture: all users at **the same level as "low cultural content consumers"** = 18 non-cultural actions performed / users per week	18
High number of cultural actions (More than 9 cultural actions / week)	50%	100 (51 + 49)		18



Average number of action per user / week = 60

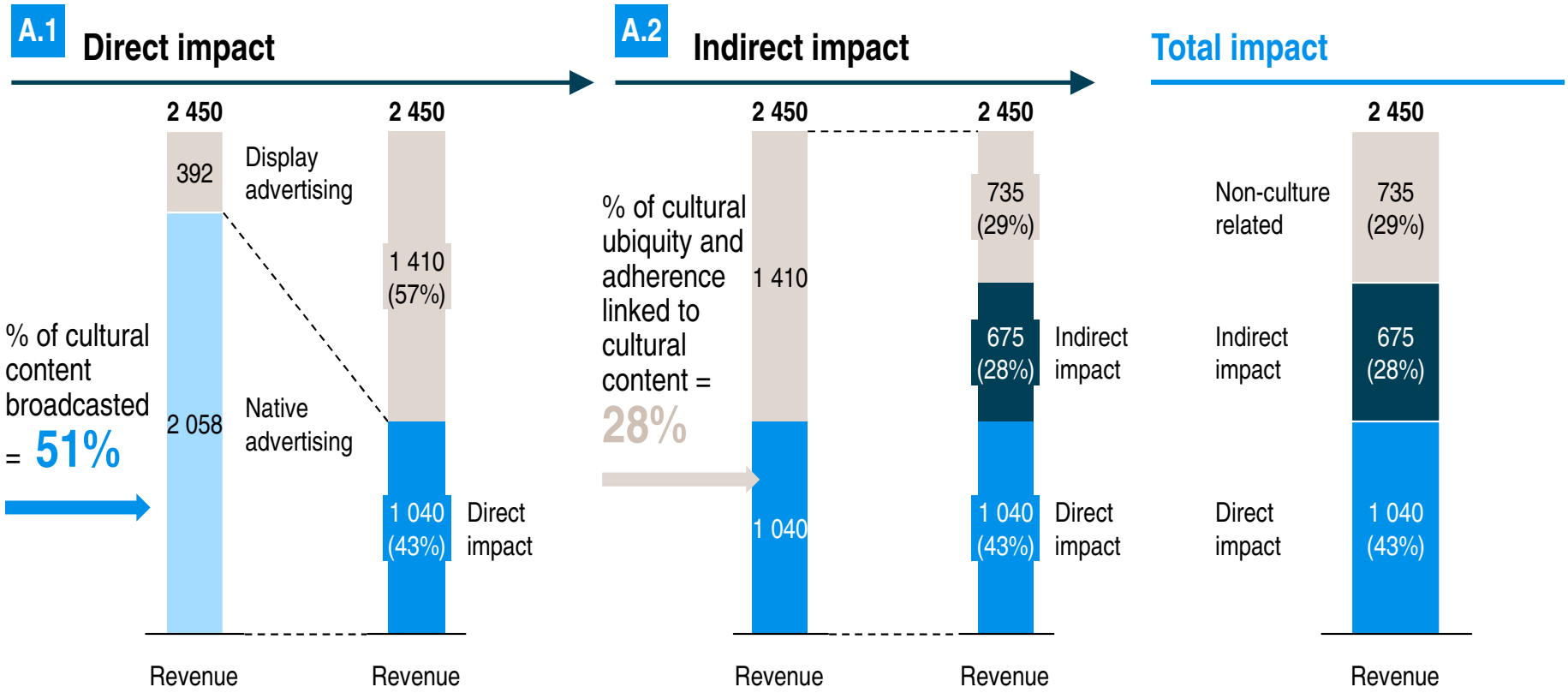
Impact on the total number of action performed = 70% less **direct impact** = 70%-39% **= 31%**

Source: Corporate website, Declarative study of Facebook usage during week 4 of March 2015 by Ipsos for creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content could have an overall impact of EUR ~1 715 m on Facebook revenue in Europe

Calculation of the cultural content direct and indirect impact on ad revenue



FINAL VERSION

Source: Corporate website, Declarative study of Facebook usage by Ipsos for European creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content helps social networks understanding their users expectations and thus better monetize their consumption profiles

facebook

Cultural content role in implicit and collateral value creation – Social networks

	Value creation drivers	Key Success Factors	Cultural content impact	Rationale
Implicit	Market capitalization	Customer stickiness	◑	> By nature, Facebook enables users to **share cultural content** in a viral way through the **"like"** or **"share" features**
	Market share	Virality – Tribe effect	◑	
	Share of wallet	Ubiquity for advertisers	◔	> **Sharing** and consuming **cultural content directly contributes to the users experience** of Facebook as a social media
	Brand image	Customer stickiness	○	> Thus, cultural content contributes to **increase** Facebook **users' stickiness**
	Better understanding of users and needs	Content range	●	> When **cultural content is shared, liked or even only commented** by users, Facebook gathers and analyze data that will enable to understand users' tastes and needs, develop their consumption profiles and then monetize them through targeted advertising solutions
	Customer data monetization	Customer targeting	◑	
	Machine learning	Customer stickiness	◔	
Collateral	Direct value creation on sites embedding content from public cloud services		○	

➜ **High contribution**

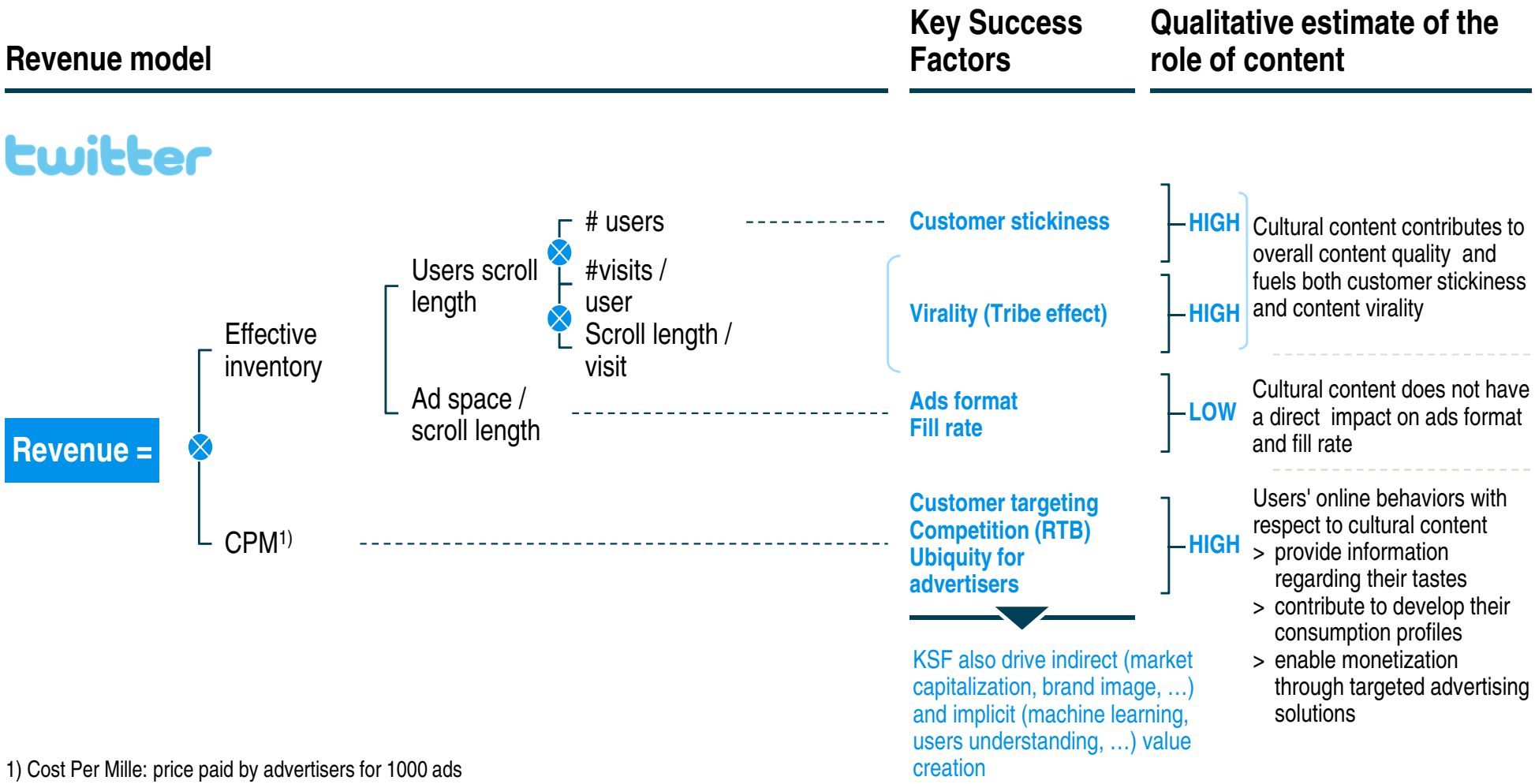
FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Contents may be seen as "fuel" for Twitter thus significantly contributing to revenue generation

Content role in Social network business model



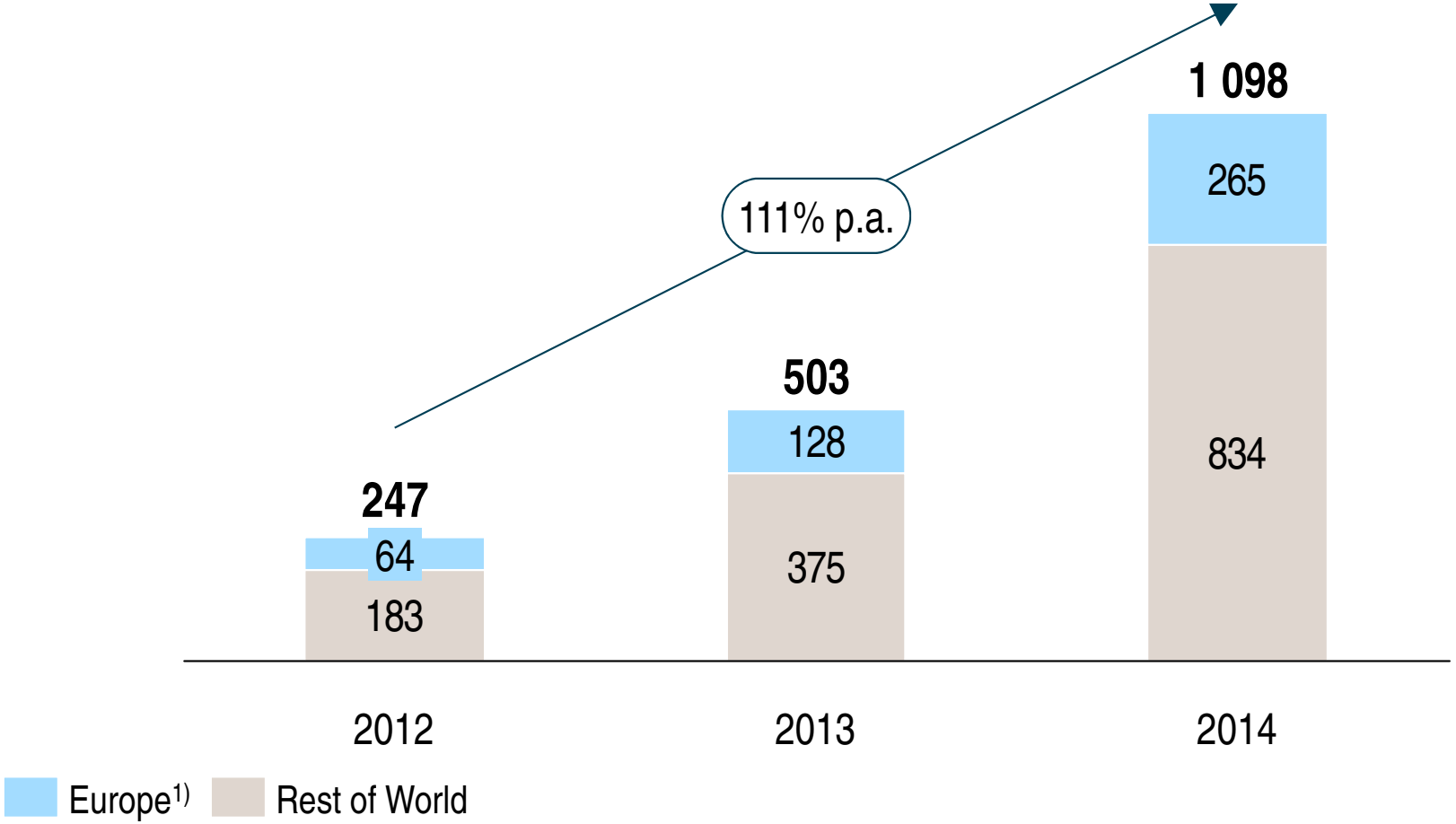
1) Cost Per Mille: price paid by advertisers for 1000 ads

Source: Roland Berger analysis

Roland Berger Strategy Consultants

With ~EUR 265 m revenue in 2014 (vs. EUR 64 m in 2012), Twitter has been a particularly fast-growing social network since 2012

General key metrics – Revenue [World; EUR m]



1) Europe: proxy

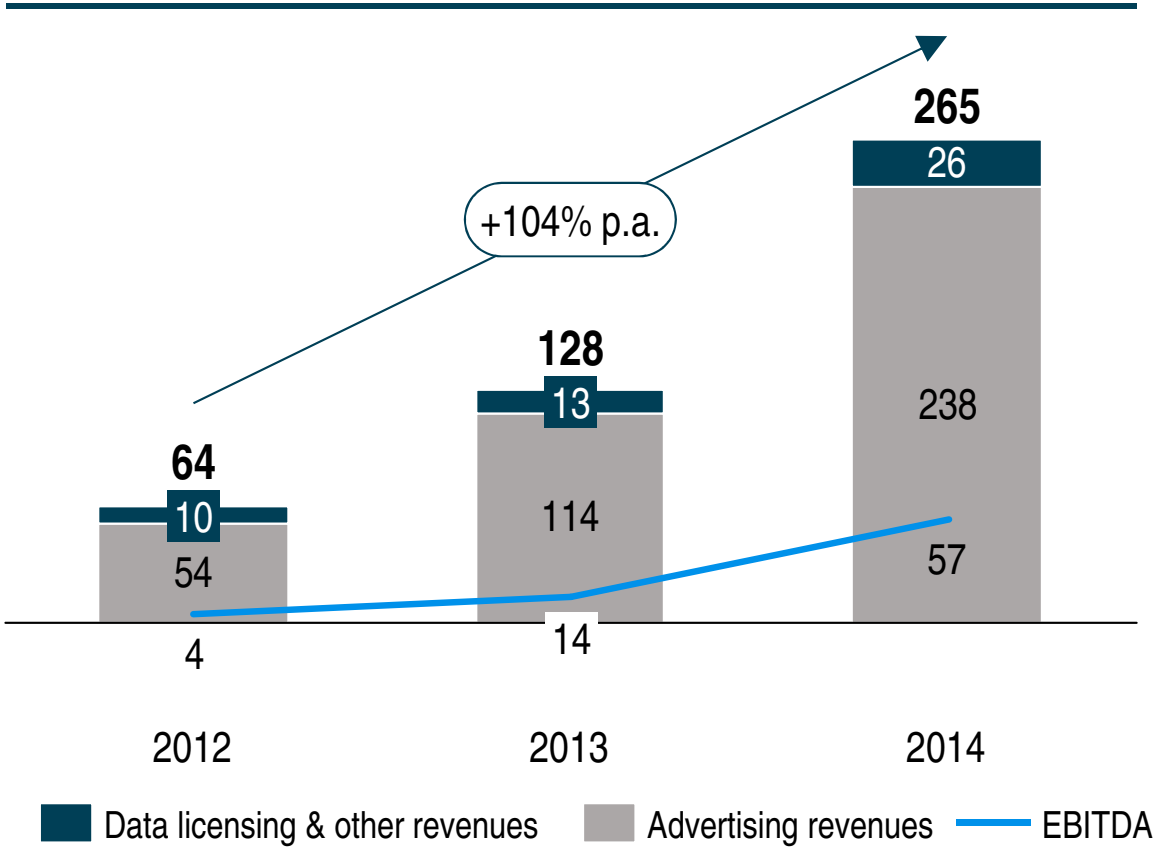
Source: Twitter annual reports, press, Roland Berger

Roland Berger Strategy Consultants

Twitter revenue in Europe grew by 104% p.a. over 2012-2014, mainly driven by advertising (90% of 2014 revenue)

Financial key metrics

Revenue and EBITDA [Europe[1]; EUR m]



1) Europe: proxy

Twitter **revenue** grew by **104% p.a. over 2012-2014**

In 2014, Twitter **EBITDA margin** stood at **21.5%** of revenue vs. 6.6% in 2012 (+15 pt.)

2014 revenue was almost exclusively generated through advertising (90%)

FINAL VERSION

Source: Twitter annual reports, press, Roland Berger

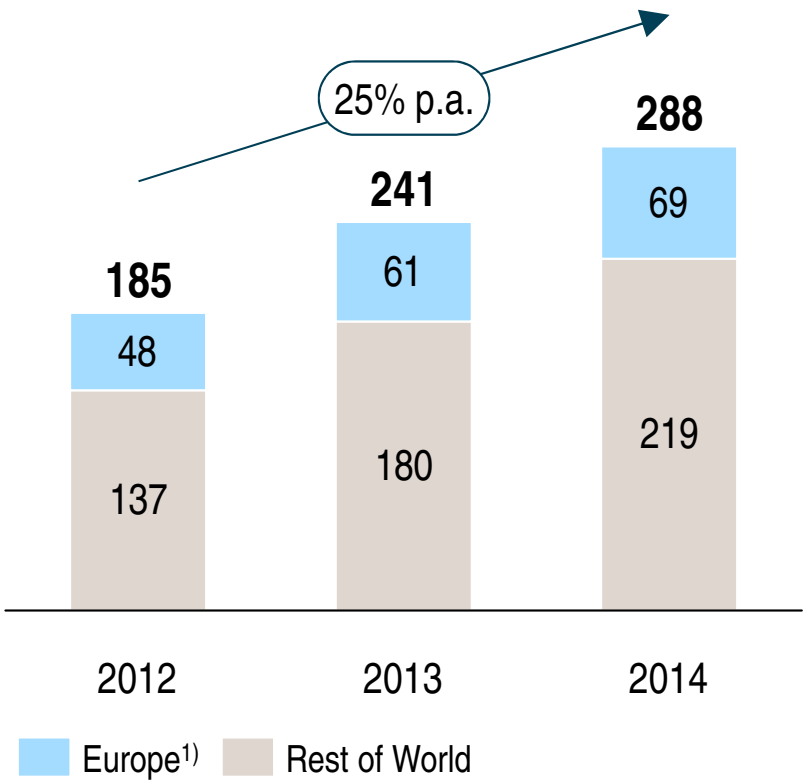
Roland Berger Strategy Consultants

Twitter monthly active user base strongly increased at a 25% yearly rate over 2012-2014, reaching 69 m monthly active users in Europe

Customer metrics

twitter

Number of monthly active users [World; m]



1) Europe: proxy

Other key figures [2014]

40% of monthly active users worldwide are posting tweets

26 m users follow YouTube – Most followed brand worldwide

89% of French +15-year old population has heard of Twitter

11% only have had an account

5% only were actively engaged on the site

Source: Twitter annual reports, press, Roland Berger

Roland Berger Strategy Consultants

Cultural content has high impact on Twitter total revenue (70%) – Both direct and indirect impact

Synthesis of cultural content impact on overall value creation

twitter

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
A.1	Direct impact on revenue [EUR m]	179	68%	> Cultural content shared on Twitter represents 75% of total Tweets shared, directly impacting Twitter revenues from advertising
A.2	Indirect impact on revenue [EUR m]	6	2%	> Based on Facebook case, its is assumed that Twitter would loose a total of 70% of stickiness without cultural content, leading to an indirect loss of 2% of tweets
	Total impact for Twitter	**186**	**70%**	> Culture has a significant role in Twitters direct and indirect revenues (70%), mostly through direct impact, as 75% of Tweets shared could concern cultural content
A.3	Implicit value-creation levers	High		> Sharing and consuming cultural content directly contributes to the users experience of Twitter as a social media and therefore strongly enhance Twitter's major role in consumer habits online > The important range of content shared significantly enable Twitter to better understand users and their needs as well as monetize their data (profile and trends)

FINAL VERSION

Source: Roland Berger analysis

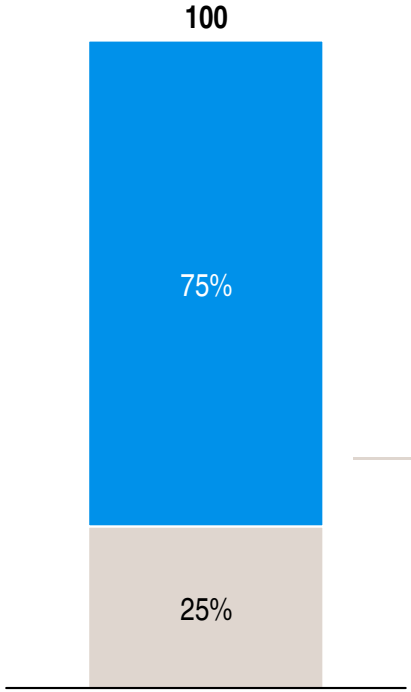
Roland Berger Strategy Consultants

Twitter's timelines are composed of an average of 75% of cultural content

Cultural key metrics

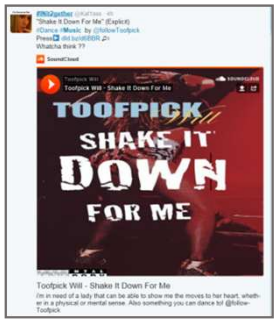
twitter

Share of cultural content on Twitter [estimates; 2015]



Cultural content share

> Embedded content from music/video platforms
> Artists photographs and paintings
> Press
> All content relating cultural content



> Text only
> Inspirational content
> UGC content (home videos, …)
> …

Average share of cultural content on Twitter = 75%

FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

68% of Twitter's revenue is directly related to cultural content, mainly through external content embedding features

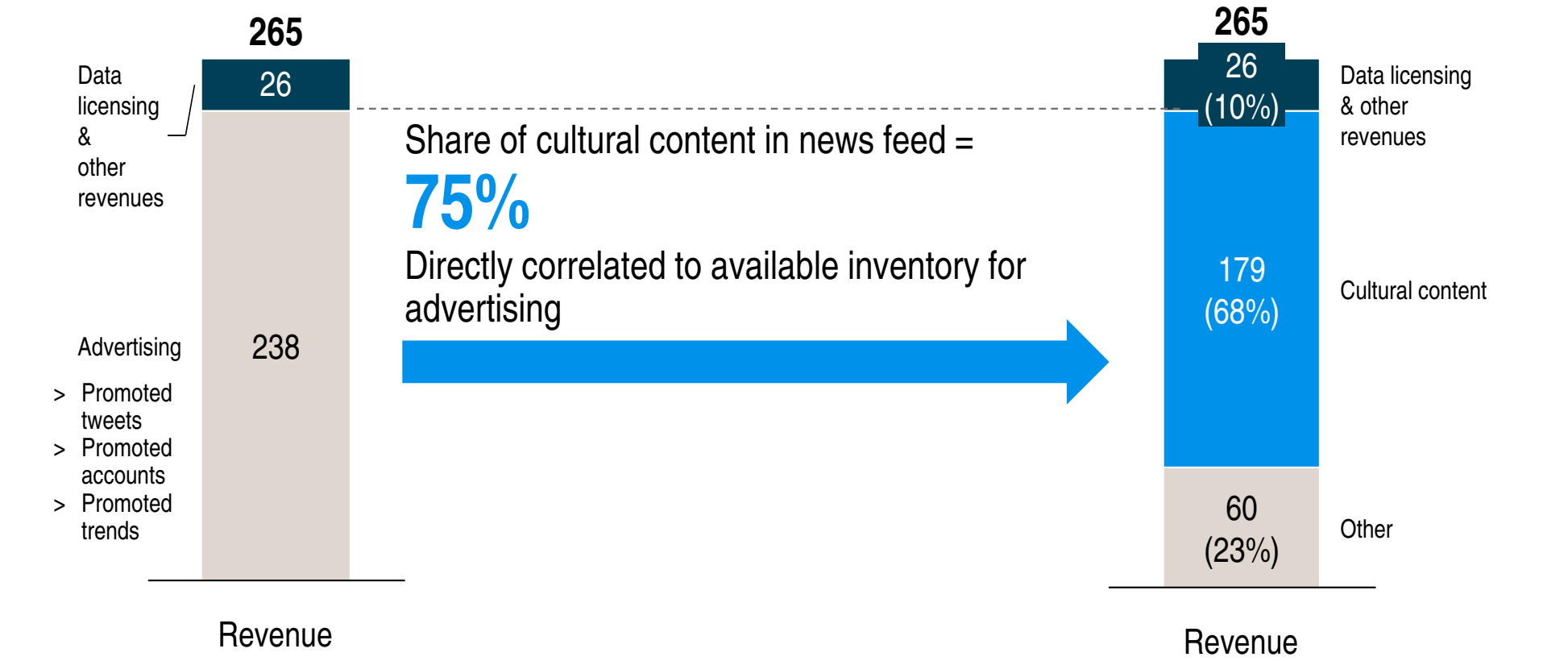
Calculation of the cultural content direct impact on revenue

twitter

Total revenue [Europe[1]; 2014; EUR m]

Cultural content factor

Cultural content direct impact on revenue [Europe[1]; 2014; EUR m]



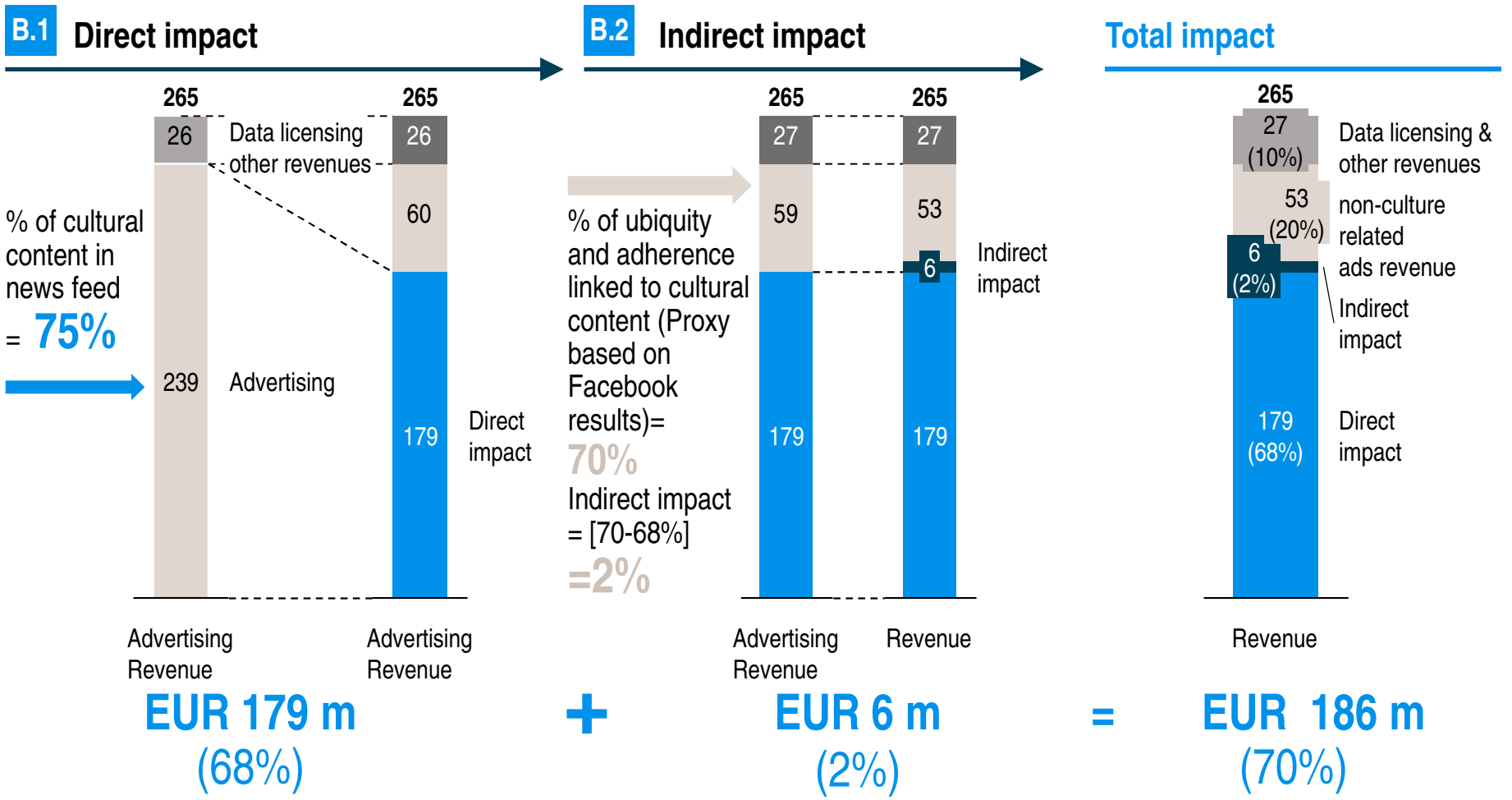
1) Europe: proxy based on users

Source: Twitter annual reports, press, Roland Berger

Roland Berger Strategy Consultants

Cultural content has an overall impact of EUR 186 m on Twitter revenue in Europe [EUR 179 m direct and EUR 6 m indirect]

Calculation of the cultural content direct and indirect impact on advertising revenue



Source: Corporate website, Declarative study of Facebook usage in France during week 4 of March 2015 by Ipsos for French creative and cultural industries, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content helps Twitter understand its users' expectations and thus better monetize their consumption profiles

Cultural content role in implicit and collateral value creation – Social networks

	Value creation drivers	Key Success Factors	Cultural content impact
Implicit	Market capitalization	Customer stickiness	◑
	Market share	Virality – Tribe effect	◕
	Share of wallet	Ubiquity for advertisers	◔
	Brand image	Customer stickiness	○
	Better understanding of users and needs	Content range	●
	Customer data monetization	Customer targeting	◑
	Machine learning	Customer stickiness	◔
Collateral	Direct value creation on sites embedding content from public cloud services		○

Rationale

> Sharing and consuming cultural content directly contributes to the users experience of Twitter as a social media

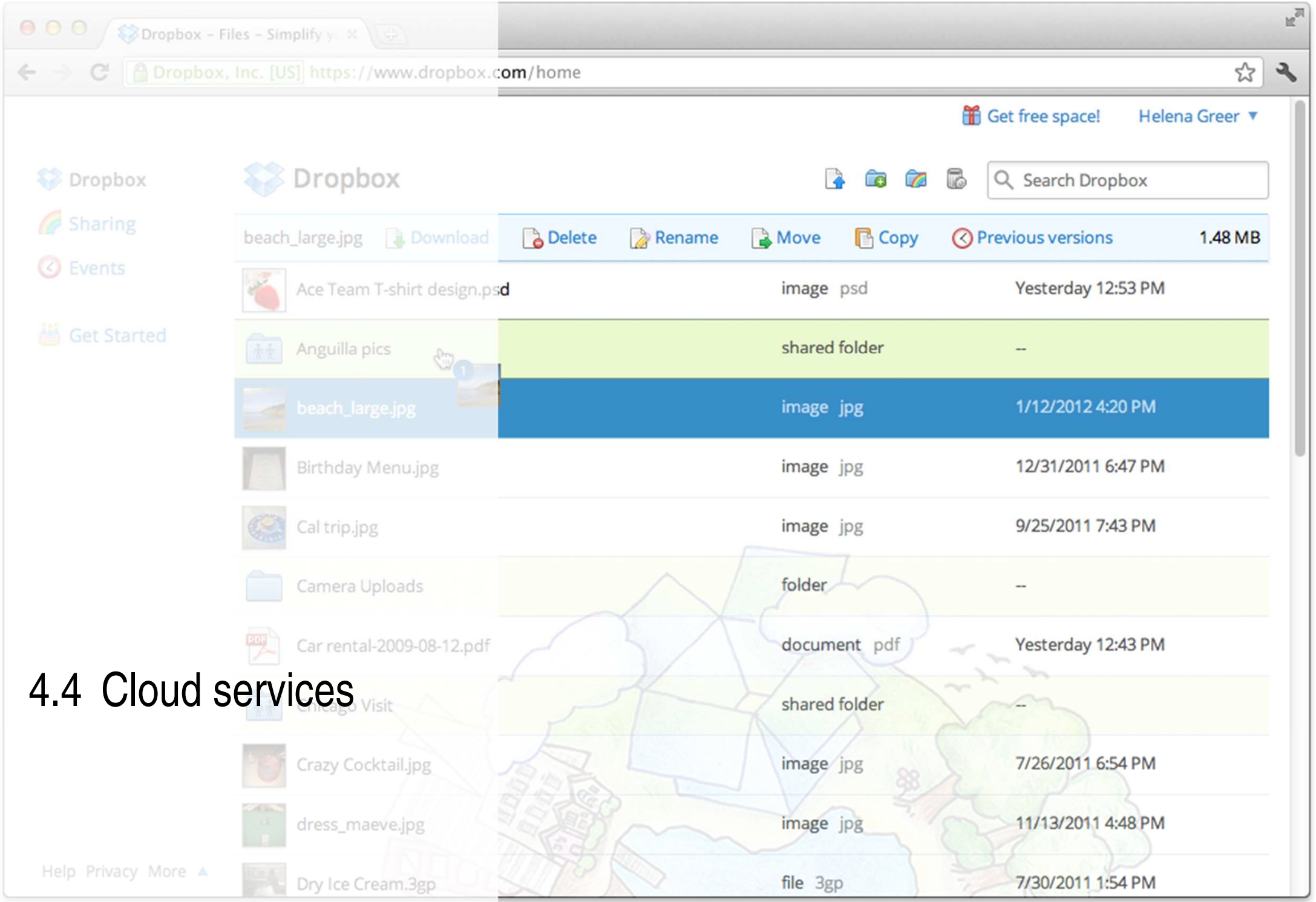
> This trend is enhanced by the public status of the majority of tweets sent, more favorable to create a tribe effect

> The important range of content shared significantly enable Twitter to better understand users and their needs as well as monetize their data (profile and trends)

→ **High contribution**

FINAL VERSION

Source: Roland Berger analysis



4.4 Cloud services

Roland Berger Strategy Consultants

Cloud services include lockers (Box), public audio (Souncloud) and video (Youtube) platforms, as well as "rip-based" content players (Grooveshark)

Cloud services

A Cloud services: Lockers

- **Booming industry** (23% p.a. CAGR 2013 - 2018 in zettabytes per year)
- Box is **one of the major players** in the cloud industry (USD ~3 bn valuation), allowing online storage and sharing services accessible from multiple devices
- The company **raised USD ~520 millions** before going public on **NYSE on January 2015**
- Formerly Box.net, Box **started on B2B** (business consumers) and has **expanded to personal users**
- Box business model is based on **freemium offer**

B Cloud services : Public video/ audio platforms

- Cloud services includes mainstream **public video (Youtube)** and **audio (Soundcloud)** platform (on which content is generally posted by its owners) as well as **"rip-based" content** video/audio platforms (**Grooveshark**)
- **Youtube is the leading online video platform** in the World and is historically based on advertising revenues and is set to launch its paid-for service with ad-free videos and offline watching
- **Soundcloud** is a Swedish **streaming audio platform** enabling its users artists to upload, record, promote and share their originally-created sounds, through premium subscriptions but with no payback
- **Grooveshark is an audio platform** created in 2007 and shut down in May 2015 on which users make their music files available in the cloud. The website has been replicated more than 10 time since its closure

FINAL VERSION

Source: Press, Roland Berger

Roland Berger Strategy Consultants

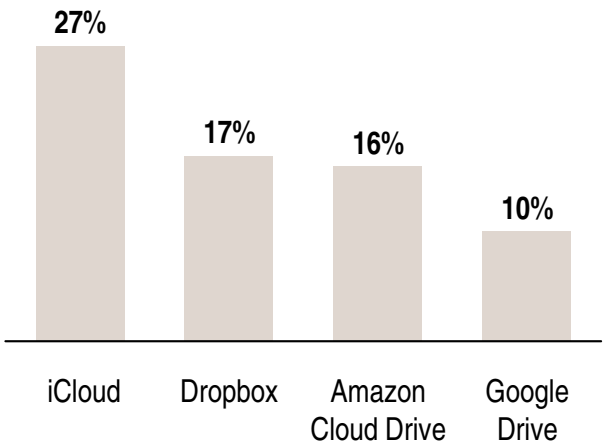
Distant lockers usages have recently soared thanks to internet/ IT giants' cloud services development

Technical intermediaries description –Cloud services: Lockers

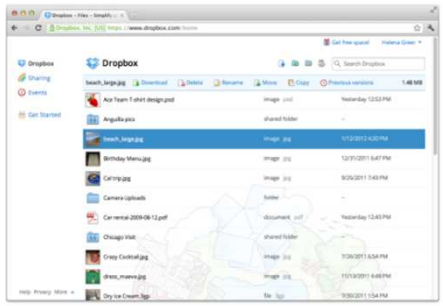
Who are they?

OneDrive, Dropbox, Google Drive, SpiderOak, box, amazon cloud drive, iCloud

US Usage of major cloud locker services
[% of respondents]



Why are they important?



> Online storage and sharing services accessible from multiple devices

> Various storage capacity allowing the user to store any media content (personal and public content) regardless of content type

➔ By making content available from any device, enhance accumulation on the cloud of cultural content at no cost

How do they generate revenue?

Main revenue generation approach

> Subscriptions

> Freemium based on storage capacity levels

Main revenue generation levers

> # of users

> usage levels

FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content contributed ~3% to the 2014 European lockers market (i.e. EUR 50 m) – Direct impact only

Europe – Extrapolation of Box analysis on the lockers market

Methodology – Volume market share

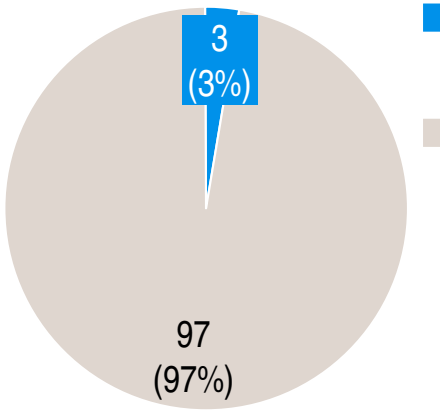
- **European lockers revenue** coming **from cultural content** was analyzed **based on Box subscription revenue**, **premium-to-all user ratio** and **user market share**
- In 2014**, Europe** gathered **224 million locker users**
- Assumption**: Europe locker premium-to-all user ratio** is equal to Box's (**10%**) – *"Almost all users intend to store at low or no cost"* – **22 million locker premium users**
- Hence, Box 2014 premium-user market share in Europe amounted to 6% (1.3/22)
- Over the last months, most players aligned their cost per terabyte to remain competitive: **Box market share in value and in volume are equivalent**

Results

box

∑ = EUR 100 m

6% of the market

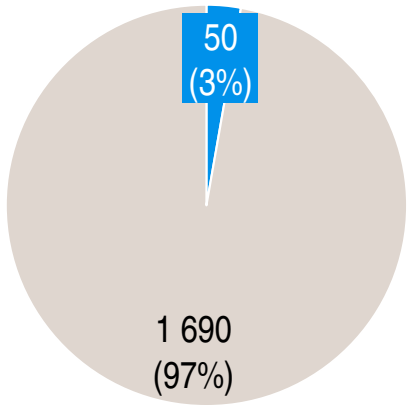


Total impact = EUR 3 m

Europe

∑ = EUR 1 740 m

100% of the market



Total impact = EUR 50 m

Direct impact of cultural content

Revenue not impacted by cultural content

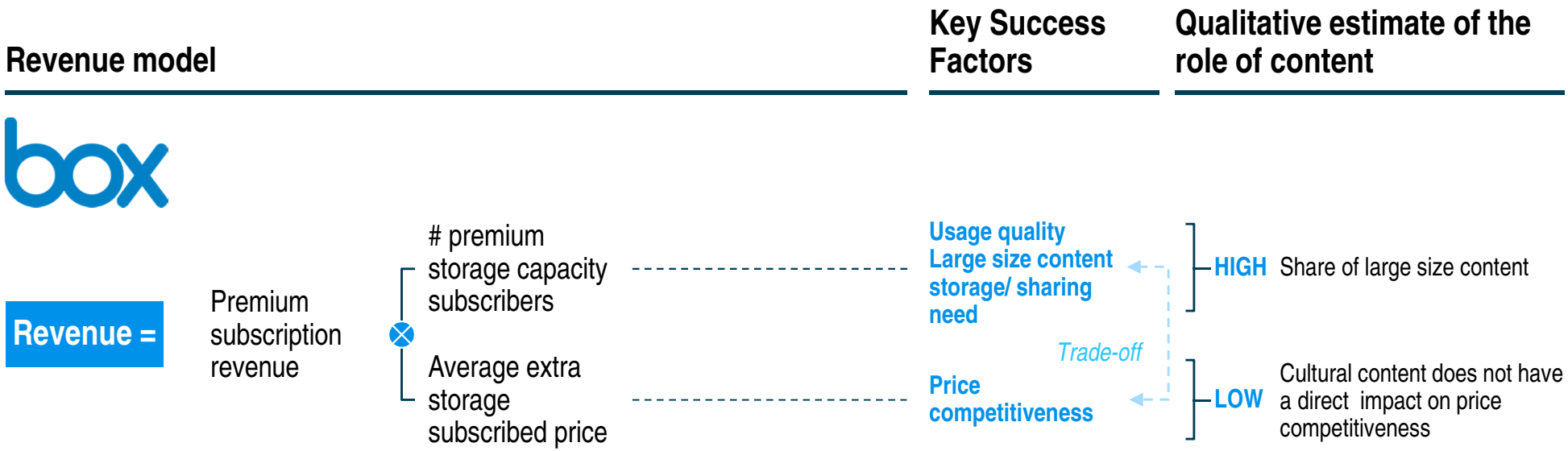
FINAL VERSION

Source: Cisco Global Cloud Index, Box, press, Roland Berger analysis

Roland Berger Strategy Consultants

Lockers, such as box, revenue is based on freemium models, with a free basic storage space and paying storage upgrades

Content role in Lockers business model

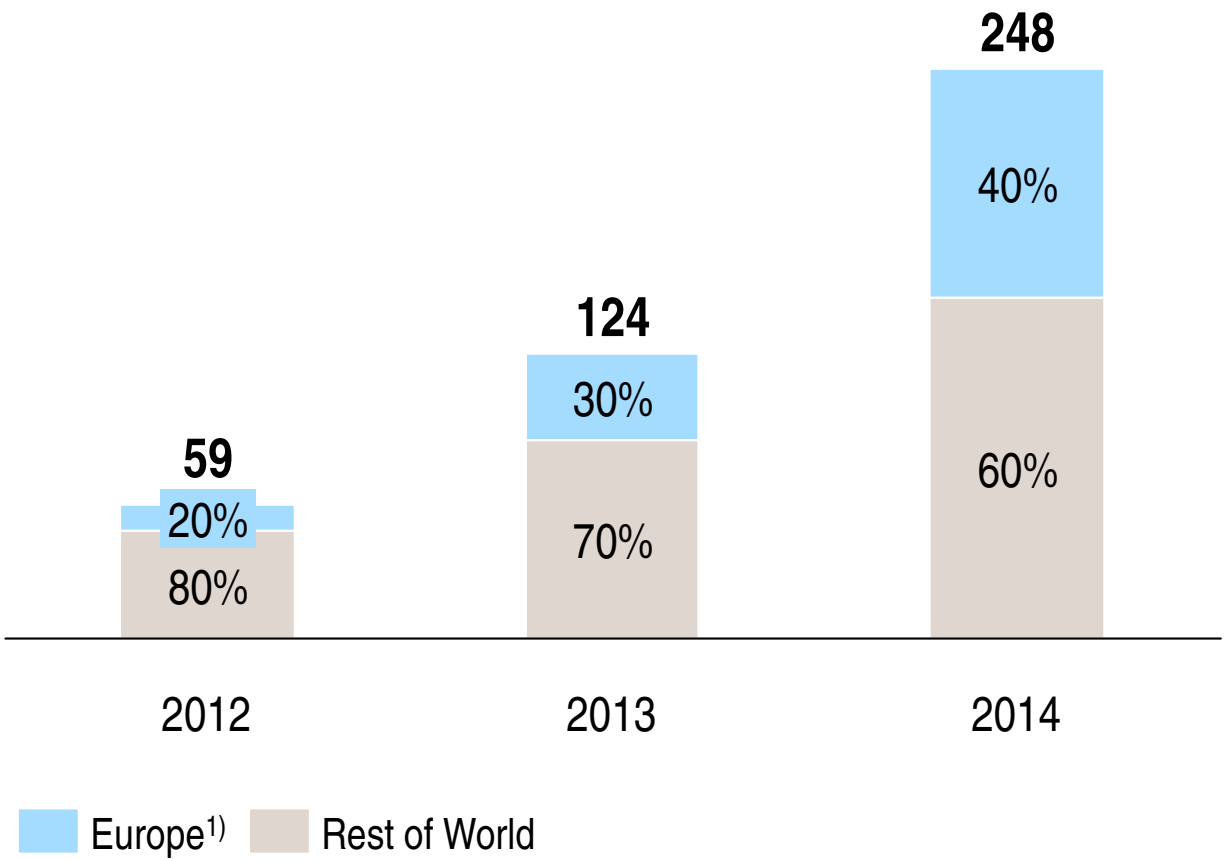


Source: Roland Berger analysis

Roland Berger Strategy Consultants

With EUR 100 m in revenue, Europe accounted for 40% of Box revenue in 2014

General key metrics – Revenue [World; EUR m]



Europe represents 20% of total revenue in 2012 vs. 40% in 2014

Box has **3 offers**:

Enterprise (subscription)

Business (subscription)

Personal (freemium)

On average, **10% of its customers pay a subscription**

1) Proxy based on press review

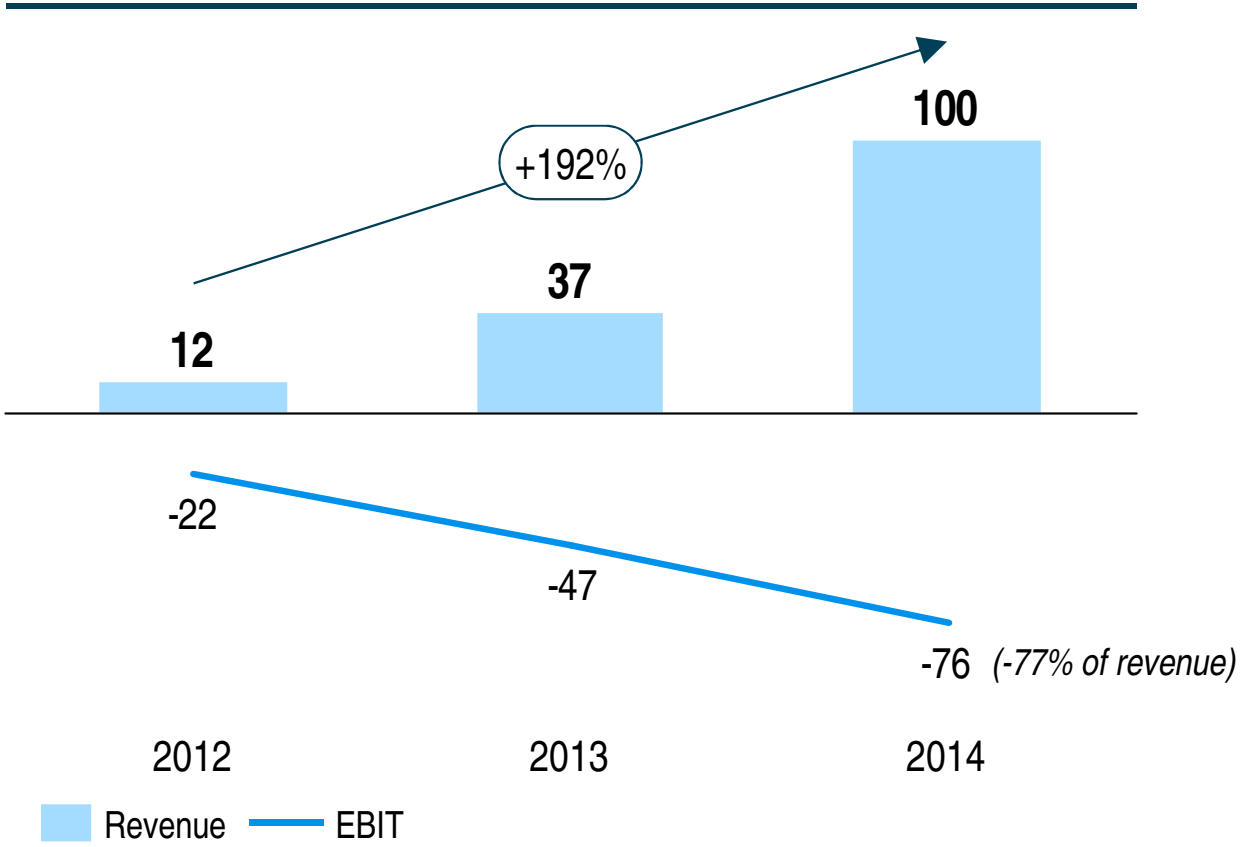
Source: Corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Box London office opened in 2012, and European revenue is growing at ~190% p.a. since 2012

Financial key metrics

Revenue and EBIT [Europe[1]; EUR m]



Box **revenue** in Europe grew by **191% p.a. over 2012-2014**

In 2014, Box **EBIT margin** stood at **-77%** of revenue vs. -186% in 2012

EBIT level is improving but Box remains unprofitable so far

1) Europe: proxy based on interviews

Source: Corporate website, press reviews, Roland Berger analysis

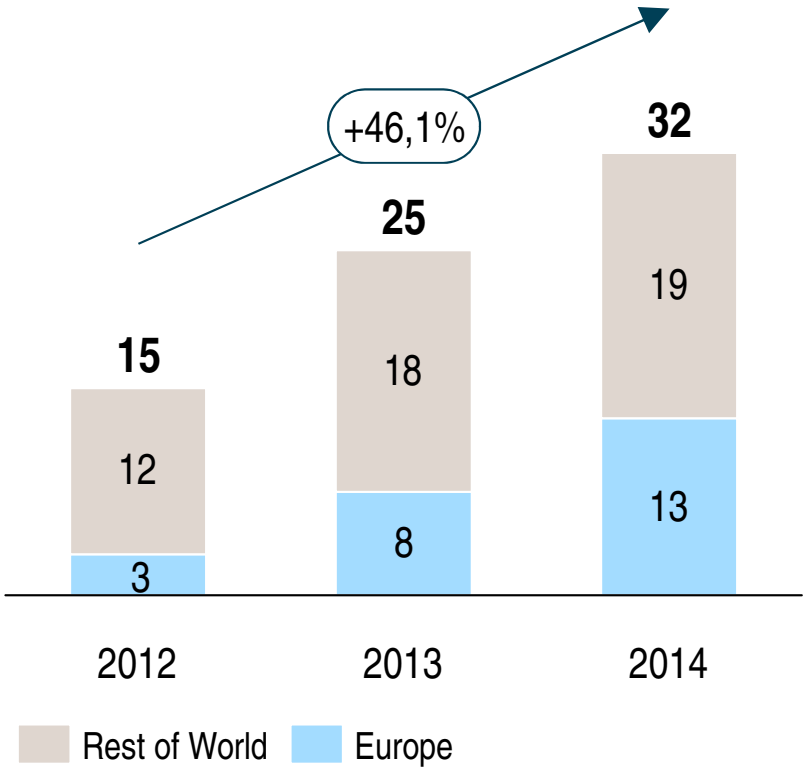
Roland Berger Strategy Consultants

Box registered users in Europe strongly increased at a 106% yearly rate over 2012-2014, reaching 13 m registered users in Europe in 2014

Customer metrics

box

Registered users [World; million]



1) Europe: proxy based on interviews

Other key figures [2014]

275 000 Organizations in 200 countries

44 000 Paying organizations

Example of customers:

Source: Canaccord broker report 2014, press, Roland Berger

Roland Berger Strategy Consultants

Lockers such as Box are mostly monetizing professional users which do not store cultural content, as opposed to private users

Synthesis of cultural content impact on overall value creation

box

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
A.1	**Direct impact on revenue** [EUR m]	**2.8**	**2.8%**	> Impact of 2.8% representing the share of cultural content on total content stored by premium users > Professionals represents 75% of total premium users and do not store cultural content
	Indirect impact on revenue [EUR m]	**NA**	**NA**	> No indirect impact should derive from cultural content as Box main share of revenues comes from professionals, which share of cultural content stored is negligible
	Total impact for Box	**2.8**	**2.8%**	> Overall, **low** amount of **revenue** and value are impacted by **cultural content (~2.8 m)** > Lockers as Box do not strongly benefit from cultural content as their premium users are mostly concentrated on professionals
A.2	**Implicit value-creation levers**		**Medium**	> Representing a small share of premium users content stored, cultural content however contributes to personal lockers share of wallet, allowing users to easily share and store large size content (e.g. movies)

FINAL VERSION

Source: Corporate website, press reviews, Roland Berger analysis

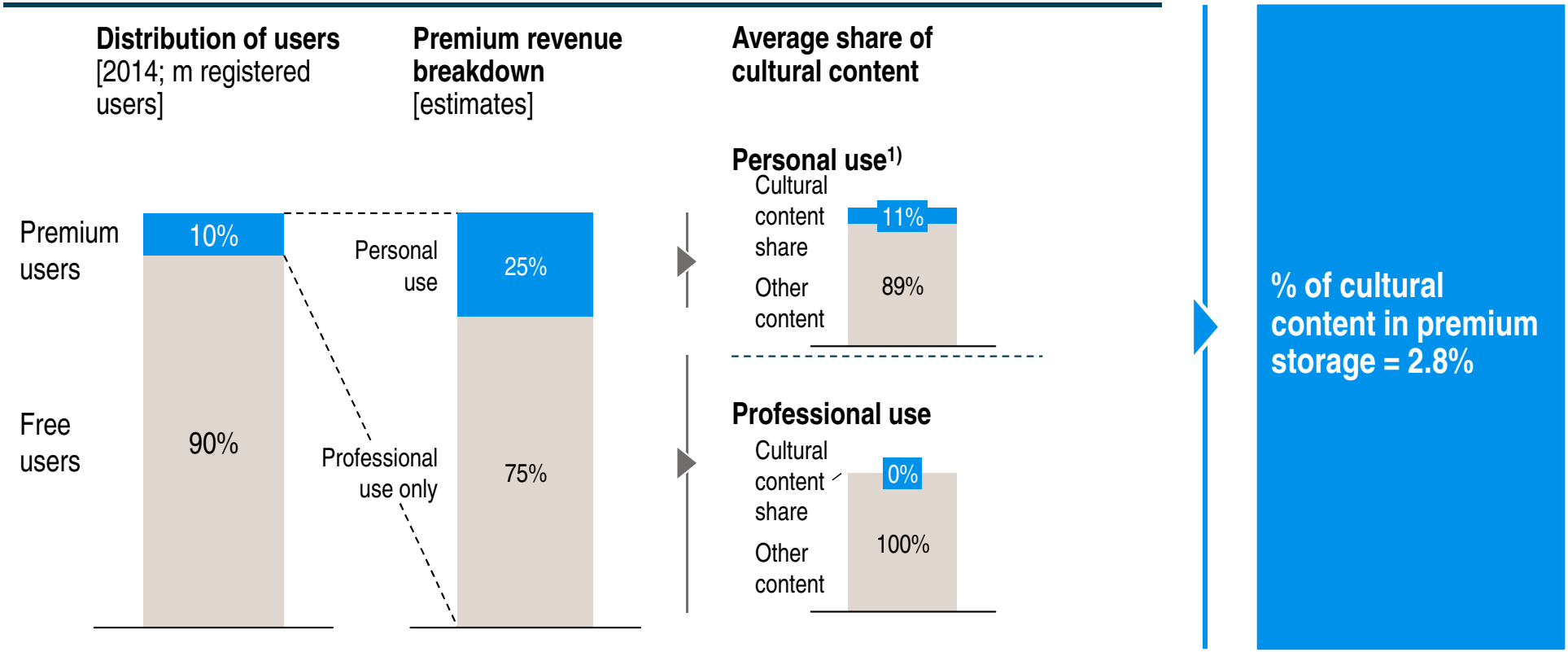
Roland Berger Strategy Consultants

Lockers are used to store and share cultural content in a proportion of ~3% of the total payable storage, exclusively in B2C

Cultural key metrics

box

Cultural content share estimate in the premium storage [2014; %]



1) Estimates based on private copy remuneration on hardware devices in France

Source: Corporate website, press reviews, Roland Berger analysis

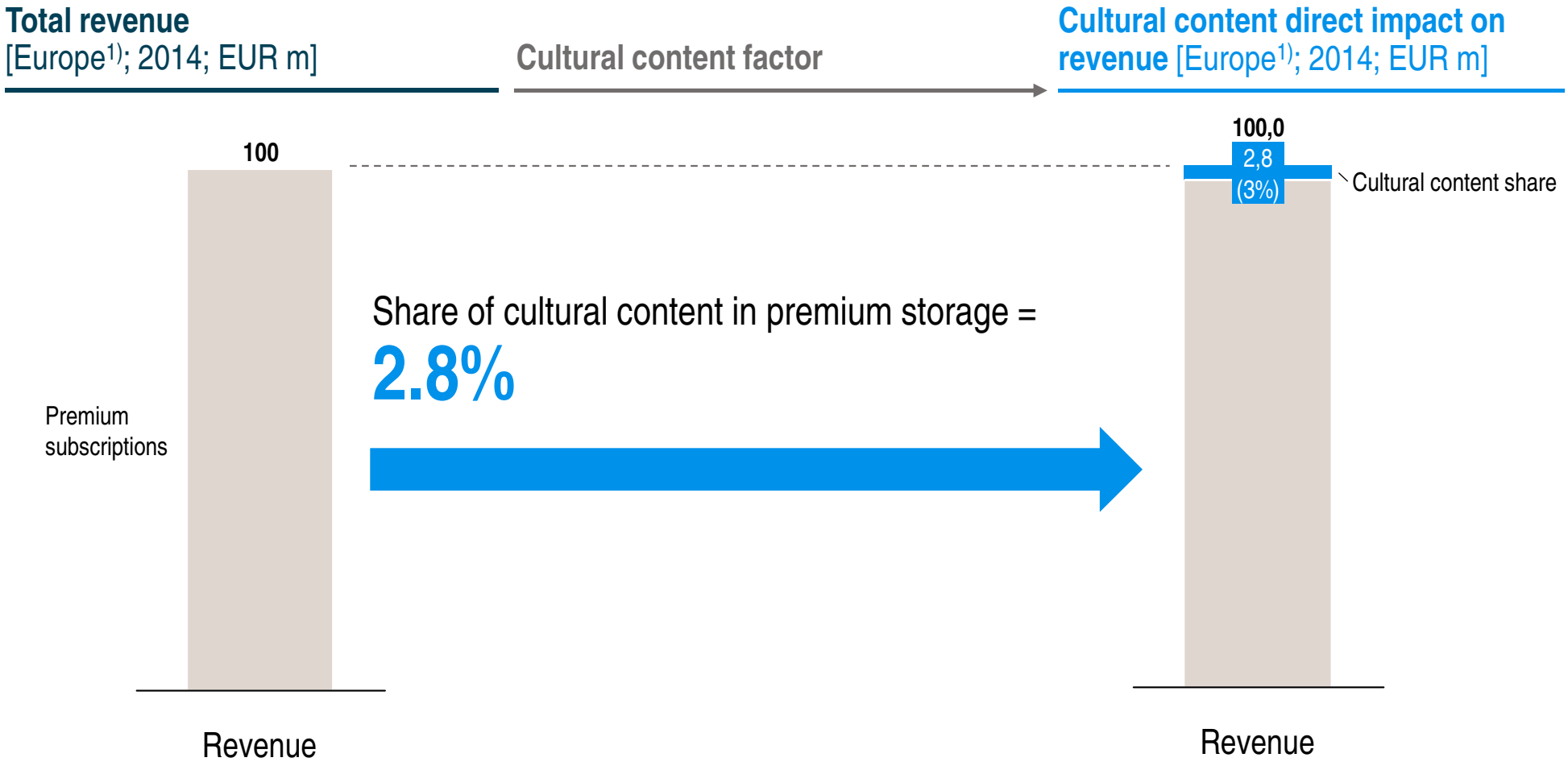
FINAL VERSION

Roland Berger Strategy Consultants

Lockers can be considered as originating ~3% of their revenue from cultural content, without fair remuneration to cultural industry

Calculation of the cultural content direct impact on revenue

box



1) Europe: proxy based on press review

Source: Corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content sharing is an important metric in terms of indirect value creation for Lockers

Cultural content role in implicit and collateral value creation – Lockers

box

	Value creation drivers	Key Success Factors	Cultural content impact	Rationale
Implicit	Market capitalization	Customer stickiness	○	> Although cultural content only accounts for a small share of premium users' content stored, it contributes to personal lockers share of wallet by enabling users to store and share large size content (e.g. movies) easily > Cultural content also contributes to Box brand image and therefore market share in terms of number of users (premium and free users), as free users are mostly B2C users and store more cultural content than B2B players
	Market share	Usage quality Price competitiveness	◔	
	Share of wallet	Large size content storage / sharing	◑	
	Brand image	Usage quality	◔	
	Better understanding of users and needs	Content range	○	
	Customer data monetization	Customer targeting	○	
	Machine learning	Customer stickiness	○	
Collateral	Direct value creation on sites embedding content from public cloud services		◔	

➔ Medium contribution

FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Content-based cloud services give streamed access - mostly free, ads paid - to content posted by owners to their users

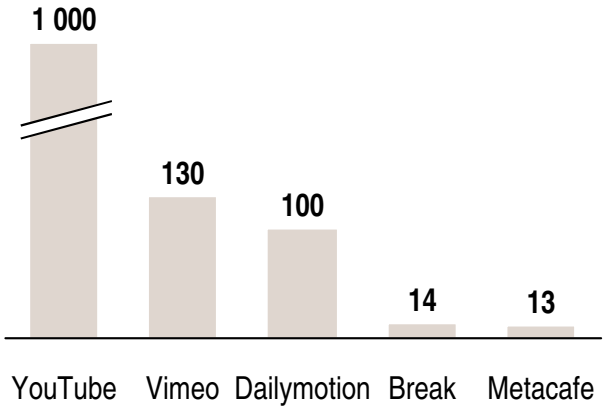
Technical intermediaries description – Cloud services: Public video/ audio platforms

FINAL VERSION

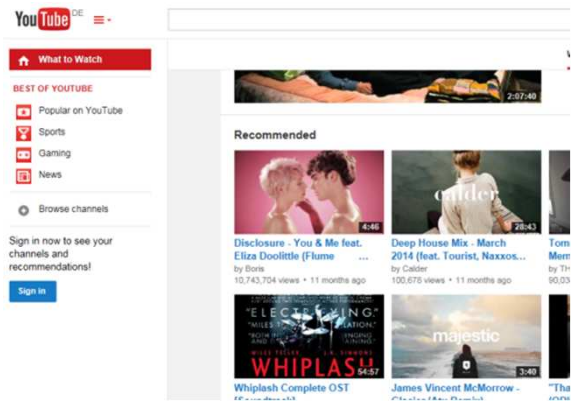
Who are they?

Dailymotion, BREAK, YouTube, vimeo, veoh, SOUNDCLOUD, Grooveshark, metacafe, PUREVID

Most visited video websites
[Global; unique monthly visitors; 2015]



Why are they important?



- Major audio & video platforms, directly competing with paying services
- Free / subscription based audiovisual content distribution services
- Host and distribute content from various sources:
  - published by right-holders
  - published by users

How do they generate revenue?

Main revenue generation approach

- Display

Main revenue generation levers

- Available inventory
- Valuation of the inventory

Source: Alexa, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content contributed ~92% to the 2014 European public video platforms market (EUR ~775 m), out of which ~66% directly

Europe – Extrapolation of Youtube analysis on the public video platforms – Results

FINAL VERSION

Methodology – Volume market share

- **European public video platforms revenue** coming directly and indirectly **from cultural content** was analyzed **based on Youtube revenue**
- Youtube is estimated to have a **85% share** of monthly unique visitors on the public video platforms market
  - at a stable revenue / user it can be assumed that Youtube accounts for **80%** of video platforms revenue in Europe
  - as the major player on the market, Youtube revenue / user could be higher than other players, Youtube could therefore accounts for **90%** of video platforms revenue in Europe

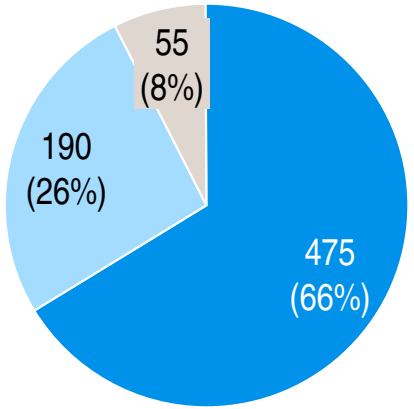
=> An assumption of **85% of revenue market share** has been adopted for Youtube extrapolation on European public video platform market

Results

YouTube

∑ = EUR 720 m

85% of the market



Total impact = EUR 665 m

Direct impact of cultural content

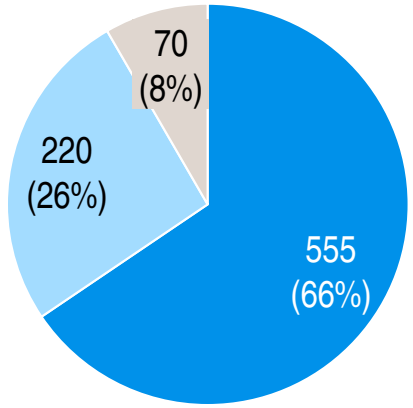
Indirect impact of cultural content

Revenue not impacted by cultural content

Europe

∑ = EUR 845 m

100% of the market



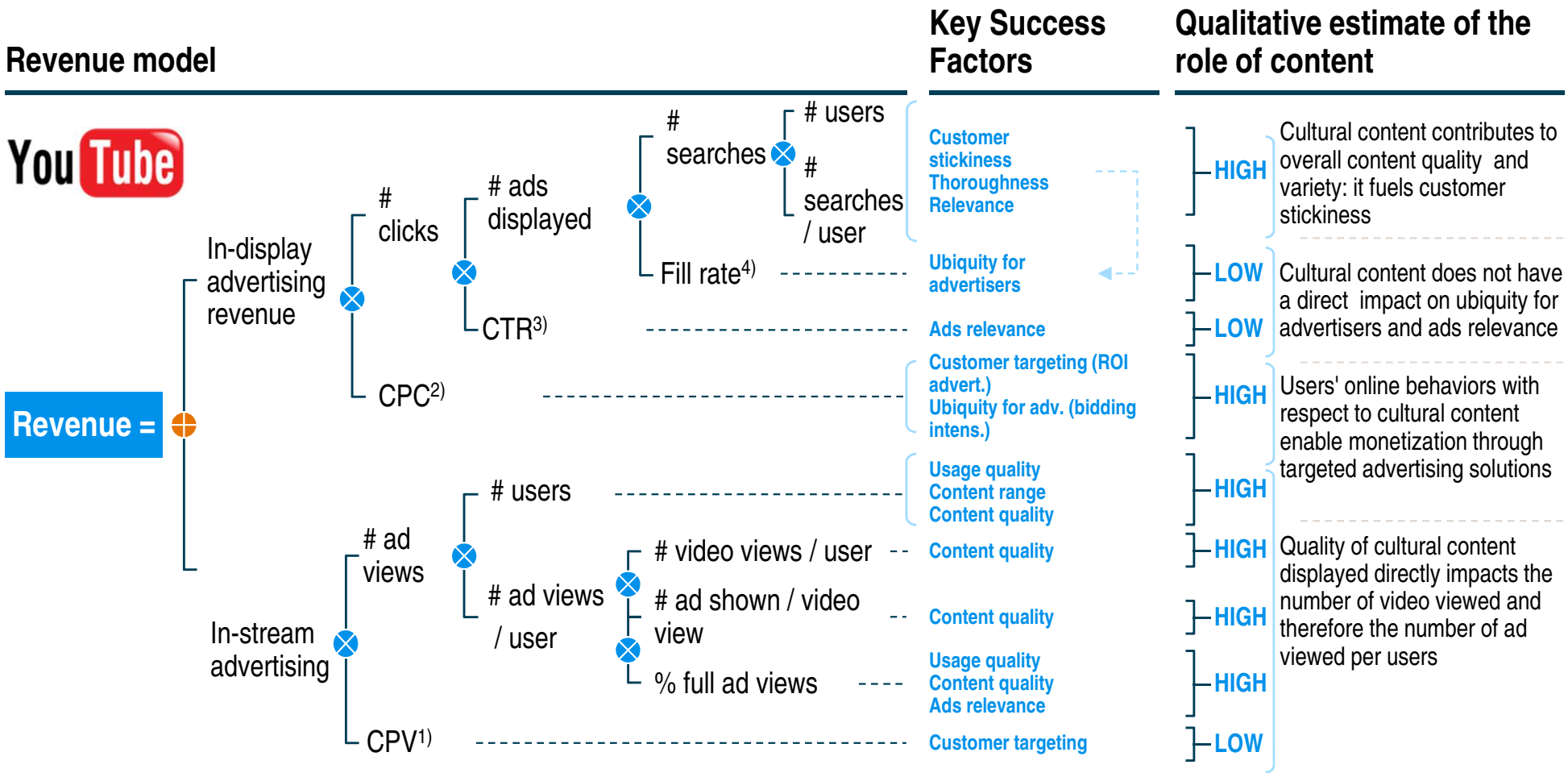
Total impact = EUR 775 m

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Content is at the core of content-based public cloud services value models

Content role in Public video/ audio platforms business model



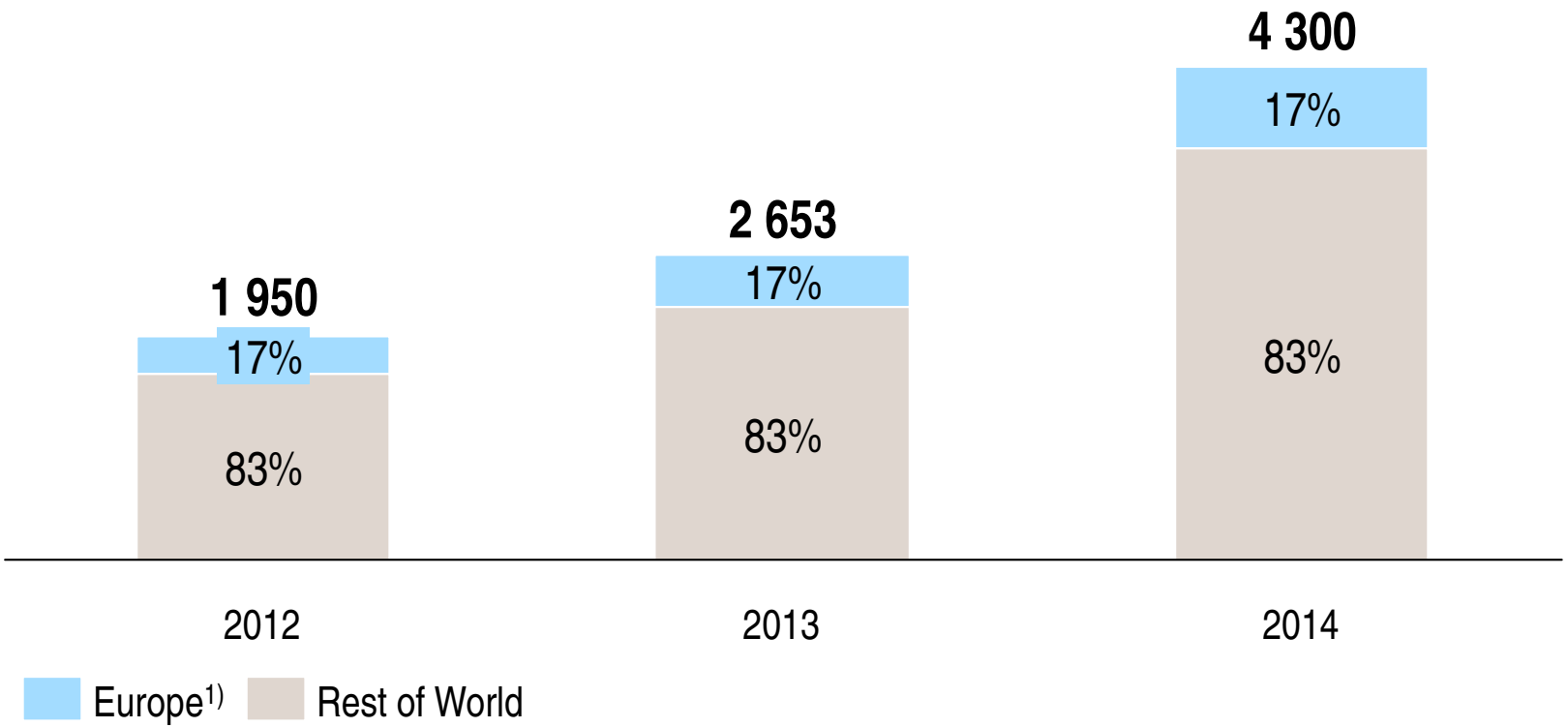
1) Cost Per Video: price paid by the advertiser to use the video as an advertisement vector
2) Cost Per Click: price paid by advertiser per display ad clicked by user
3) Click Through Rate: number of click per display ads
4) Average number of display ads per search

Source: Roland Berger analysis

FINAL VERSION

With EUR 717 m revenue, Europe accounted for 17% of YouTube revenue in 2014

Revenue [World; EUR m]



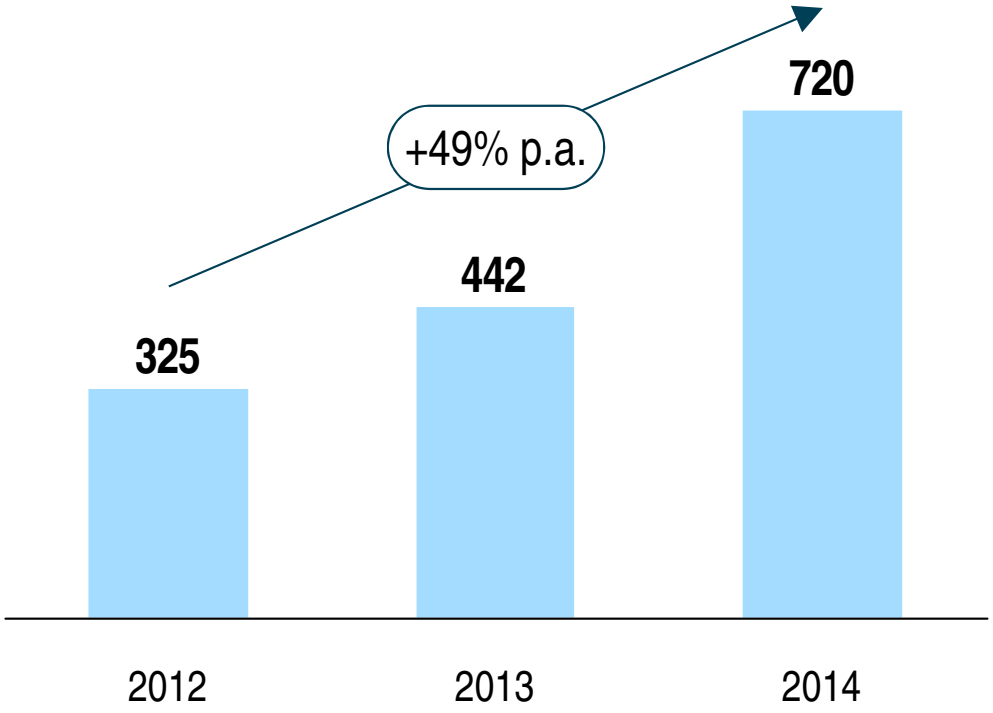
1) Europe: proxy based on press information

Source: Corporate website, press reviews, Roland Berger analysis

Though not reaching breakeven until 2014, YouTube revenue in Europe grew significantly over the past years

Financial key metrics

Revenue [Europe[1]; EUR m]



Other key figures [2014]

USD 10 m	investment into content ID (copyright management system)
in 2014	Breakeven
USD 1 bn	paid to copyrights holders since 2007

1) Europe: proxy based on press information

Source: Corporate website, press reviews, Roland Berger analysis

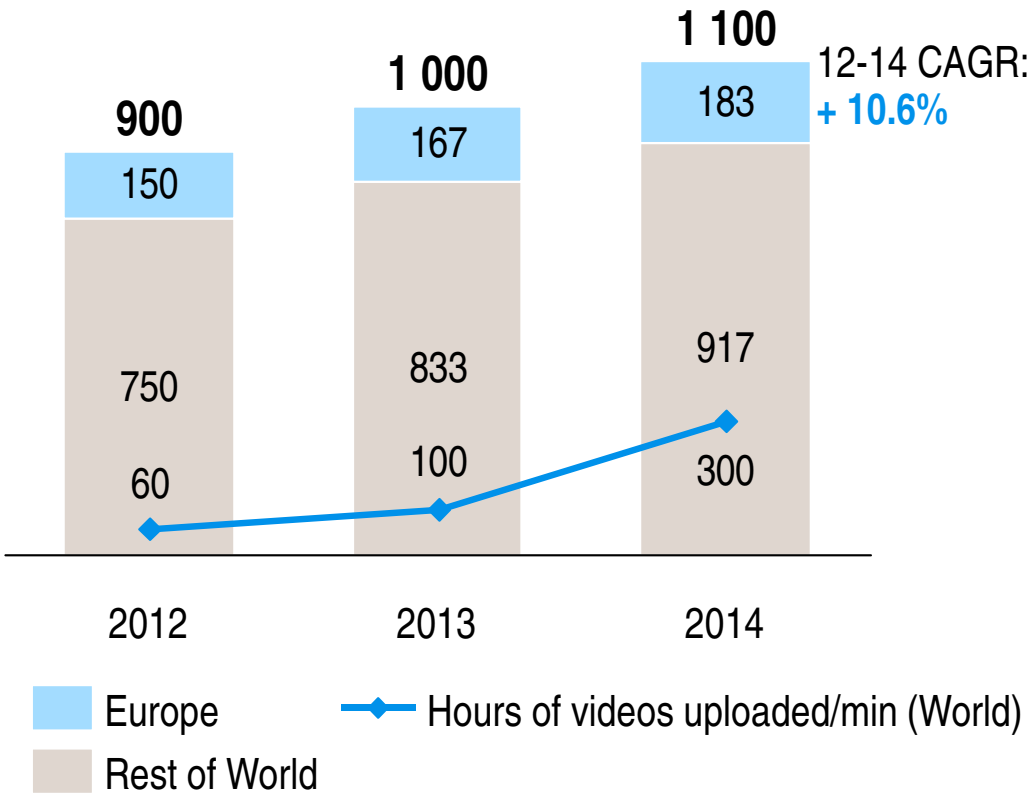
Roland Berger Strategy Consultants

Youtube's revenue in Europe grew significantly over the past years, along with users number

Customer metrics

YouTube

Number of monthly active users [2012-2014; m]



Other key figures [2014]

1 bn + users worldwide in 2014

300 hours of videos uploaded per min.

50% of views on mobile devices

1) Europe: proxy based on press information

Source: Corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content has huge impact on YouTube total revenue (92%) – Both direct and indirect impact

Synthesis of cultural content impact on overall value creation – YouTube

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
a	**Direct impact on revenue** [EUR m]	**475**	**66%**	> Cultural content accounts for 66% of total views on YouTube > Official and non-official cultural content respectively represent ~47% and ~19% of total views
b	**Indirect impact on revenue** [EUR m]	**190**	**26%**	> Non-cultural content also contributes to YouTube exhaustiveness and relevance > An hypothesis based on Tunein case results in a reduction of 85% of views without cultural content on Youtube
	Total impact for YouTube	**665**	**92%**	> Overall, cultural content has significant impact on YouTube revenue, especially as far as the direct impact is concerned (66% of revenue)
c	**Implicit value-creation levers**		**High**	> By contributing to YouTube exhaustiveness and relevance, cultural content contributes to the company's market capitalization, market share and share of wallet among others

FINAL VERSION

Source: Roland Berger analysis

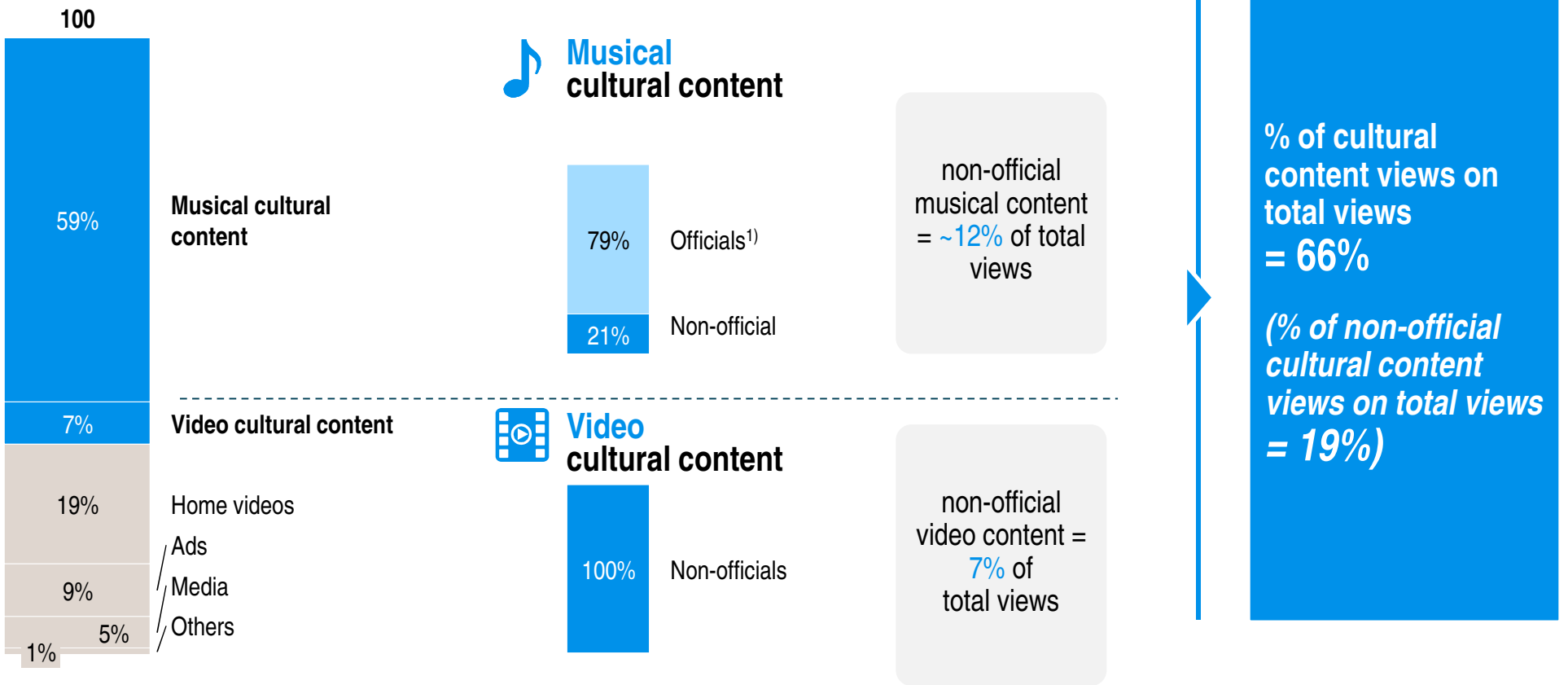
Roland Berger Strategy Consultants

Cultural content amounts to 66% of YouTube views while almost 20% is not official

Cultural key metrics

YouTube

Share of video views / type [# of videos views; 2013]



1) Music videos uploaded by official accounts of artists, companies, producers, broadcasting corporations etc.

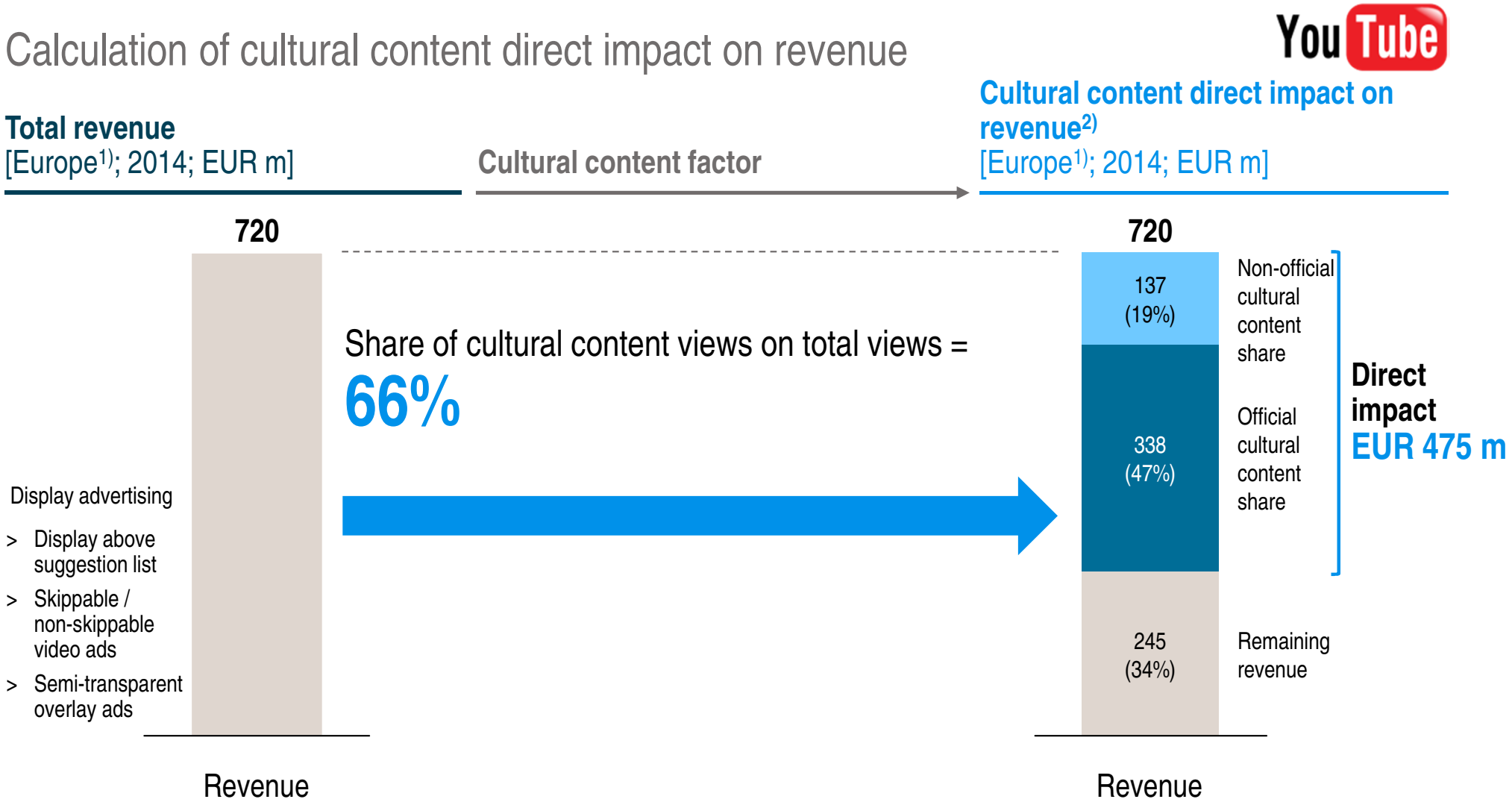
Source: Hadopi, Roland Berger analysis

FINAL VERSION

Roland Berger Strategy Consultants

Content consumption being proportionally related to revenue, 66% of YouTube value creation is estimated to have a cultural origin

Calculation of cultural content direct impact on revenue



1) Europe: proxy based on press informations
2) Official and non-official cultural content (cultural content published without agreement with right holders)
Source: Corporate website, press reviews, Roland Berger analysis

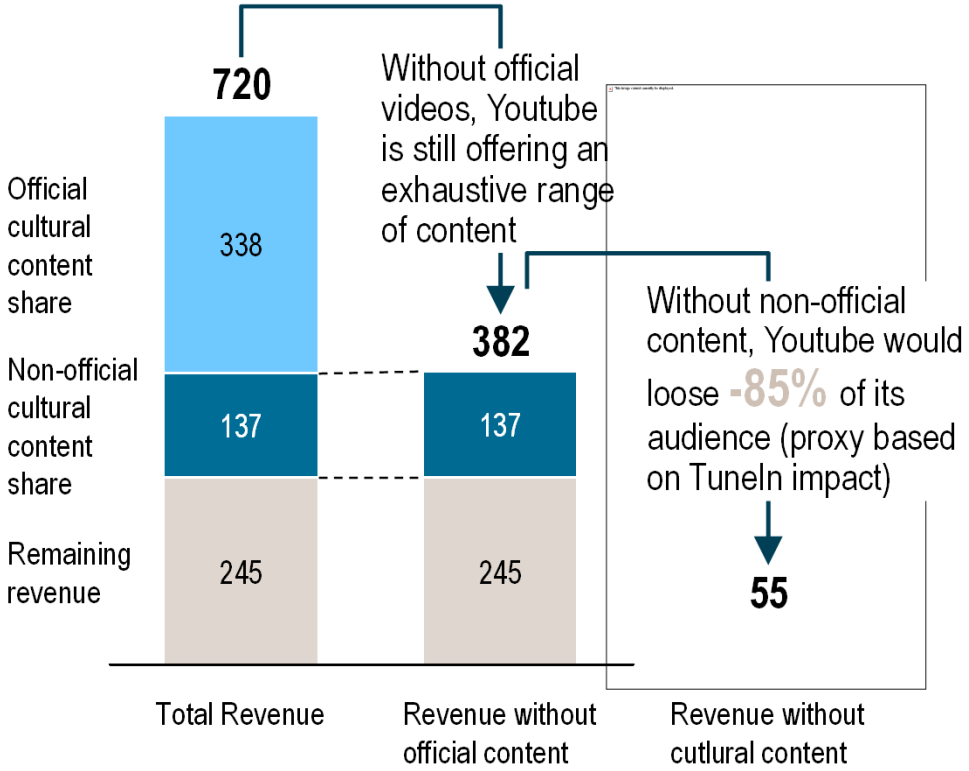
FINAL VERSION

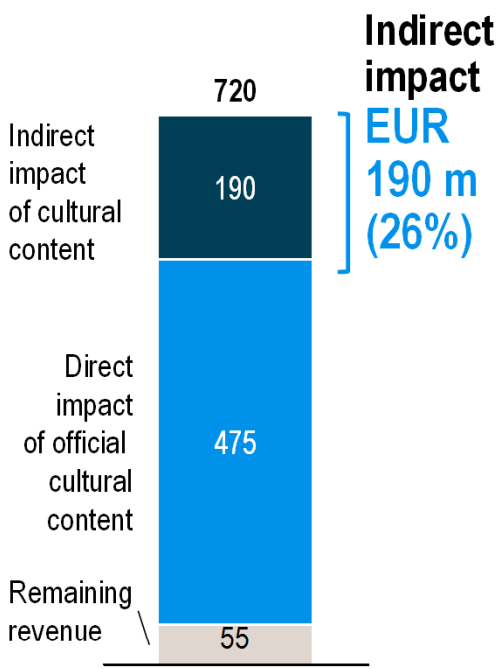
Roland Berger Strategy Consultants

YouTube benefits from cultural content as a stickiness lever for ~85% of users

Calculation of the cultural content indirect impact on revenue

Revenue [Europe[1];2014; EUR m]





Rationale / hypothesis

- Frequently used as a musical platform, (54% of European users use it as a musical platform in 2014)
- However less important in term of # of views, **non-official content large range could replace official content** if it was not available on the platform
- Based on a proxy on cultural content impact on Tunein, it can been assumed that **Youtube would loose 85% of its audience without cultural content**

FINAL VERSION

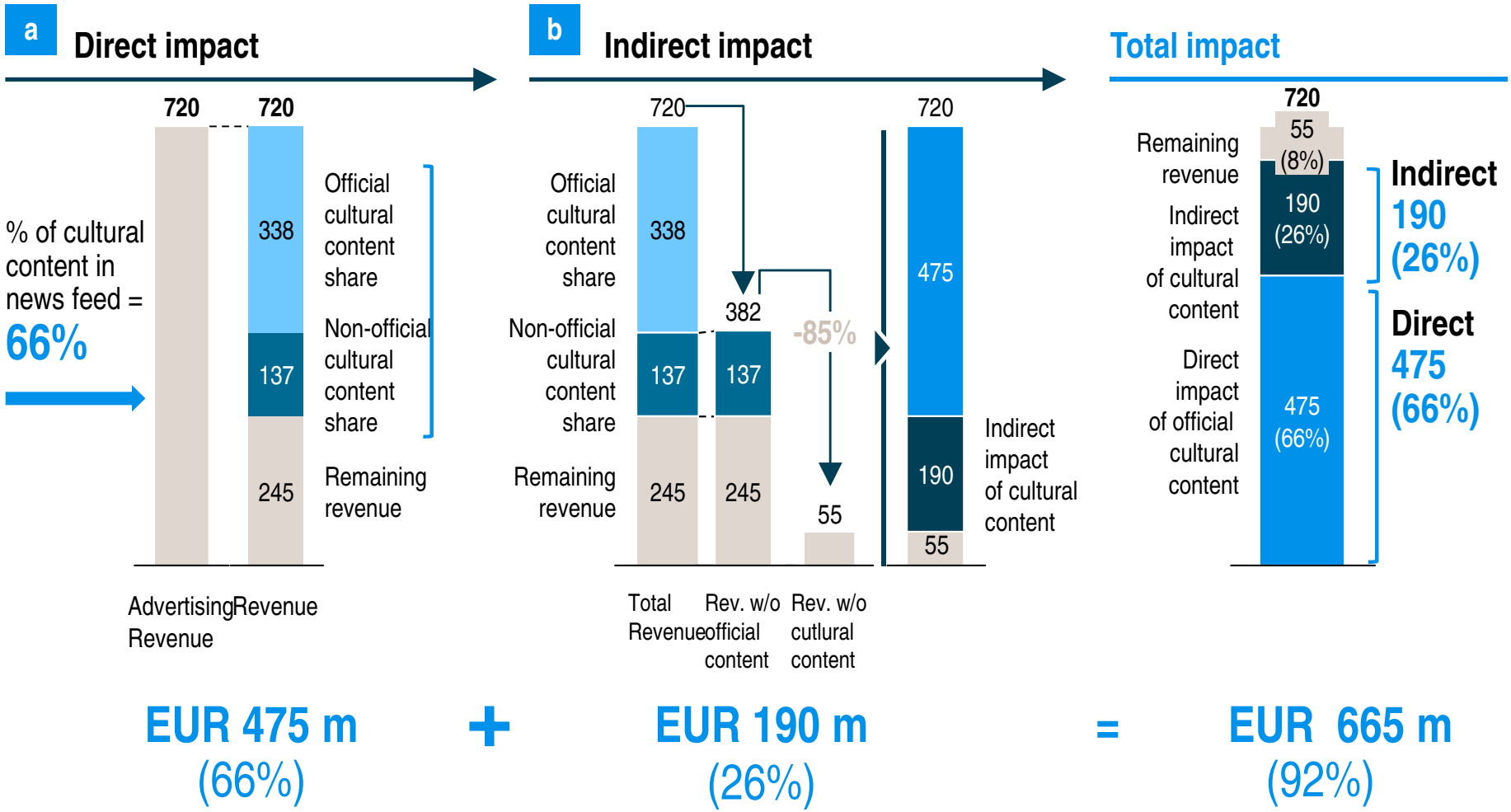
Source: Corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content has an overall impact of EUR 665 m on YouTube revenue in Europe [EUR 475 m direct and EUR 190 m indirect]

Calculation of the cultural content direct and indirect impact on revenue

FINAL VERSION



EUR 475 m (66%) + **EUR 190 m (26%)** = **EUR 665 m (92%)**

Source: Corporate website, press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Collateral value creation is very largely driven by cultural content for public video and audio platforms, though being hardly considered

Cultural content role in implicit and collateral value creation – Public video/ audio platforms

	Value creation drivers	Key Success Factors	Cultural content impact	Rationale
Implicit	Market capitalization	Customer stickiness	◑	> Cultural content contributes to the exhaustiveness and the relevance of public platforms and therefore directly contributes to customer adherence
	Market share	Content quality Content range Usage quality	◕	
	Share of wallet	Virality	◔	
	Brand image	Usage quality	◔	
	Better understanding of users and needs	Content variety	◑	> Customer preferences and habits in term of content consumption enable public platforms to better address customer needs as well as data monetization
	Customer data monetization	Customer targeting	◔	
	Machine learning	Customer stickiness	◔	
Collateral	Direct value creation on sites embedding content from public cloud services	Virality + Content range + Content quality	●	> Public platform benefits from content shared on other websites

➔ High contribution

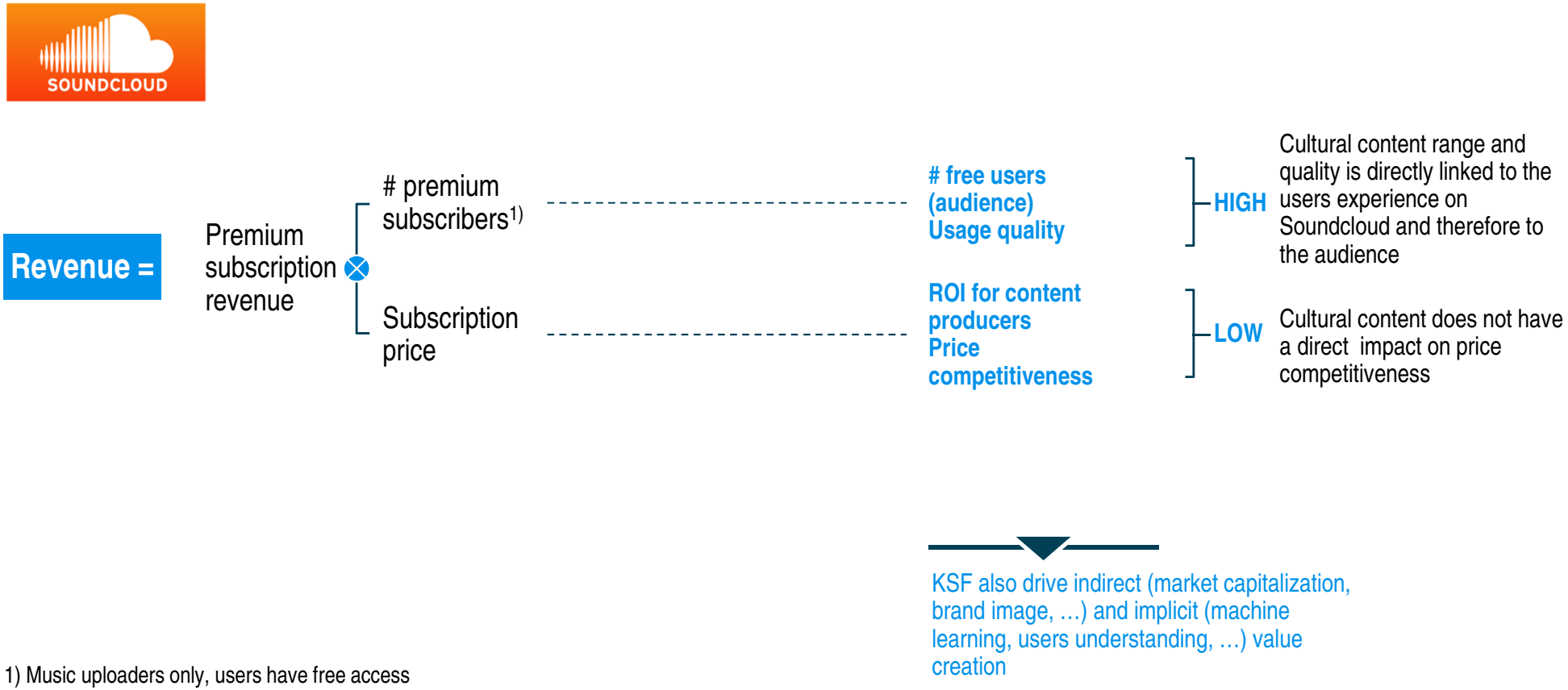
FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

Issues about public audio/ video platforms models revolve around value sharing and legality

Content role in Public video/ audio platforms business model



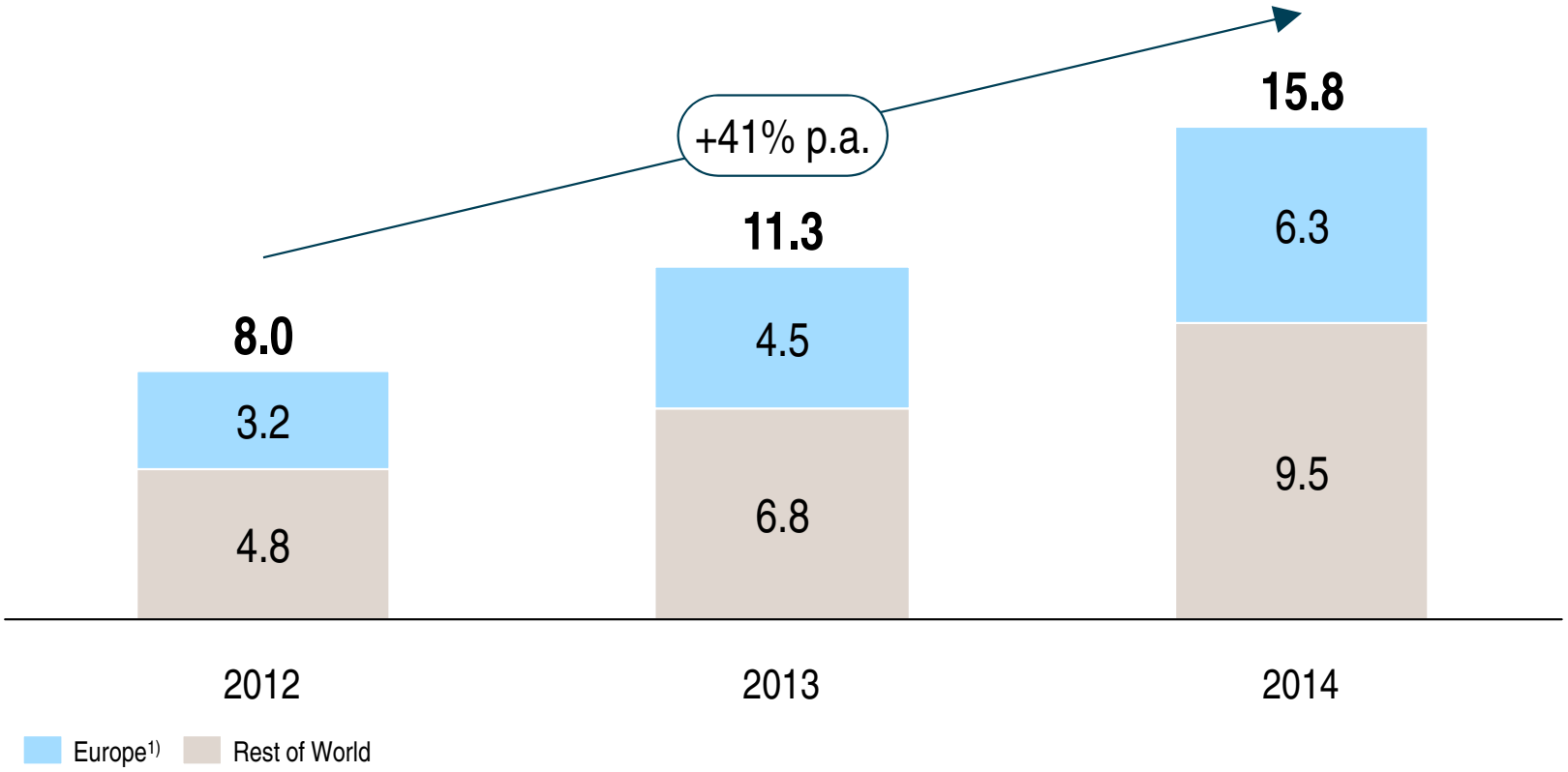
1) Music uploaders only, users have free access

Source: Roland Berger analysis

Roland Berger Strategy Consultants

With EUR 6 m in revenue, Europe accounted for 40% of Soundcloud revenue in 2014

General key metrics – Revenue [World; EUR m]



FINAL VERSION

1) Europe: proxy based on press informations

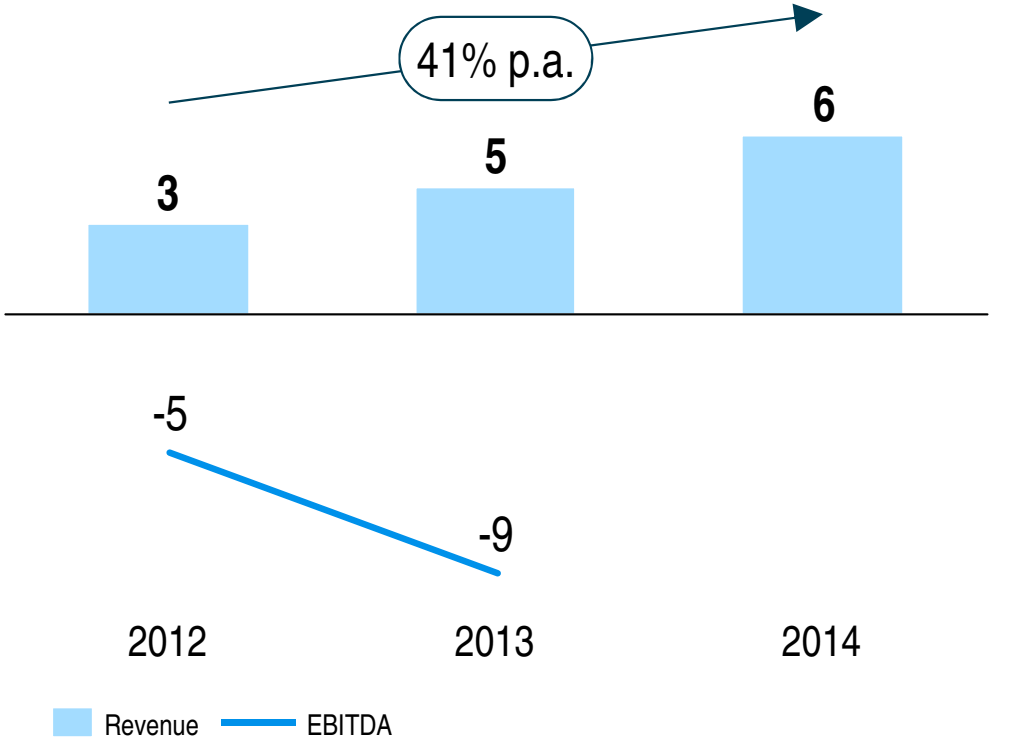
Source: Billboard, Soundcloud's management interview reports ,corporate website, press, SimilarWeb, Roland Berger analysis

Roland Berger Strategy Consultants

Soundcloud's business model remains highly non-profitable

Financial key metrics

Revenue and EBITDA [Europe[1]; EUR m]



Soundcloud **revenue** grew by **41% p.a. over 2012-2014**

In 2014, Soundcloud **EBITDA** stood at EUR **-9 m** (vs. revenue of only EUR 5 m)

Soundcloud remains highly unprofitable

FINAL VERSION

1) Europe: proxy based on press information

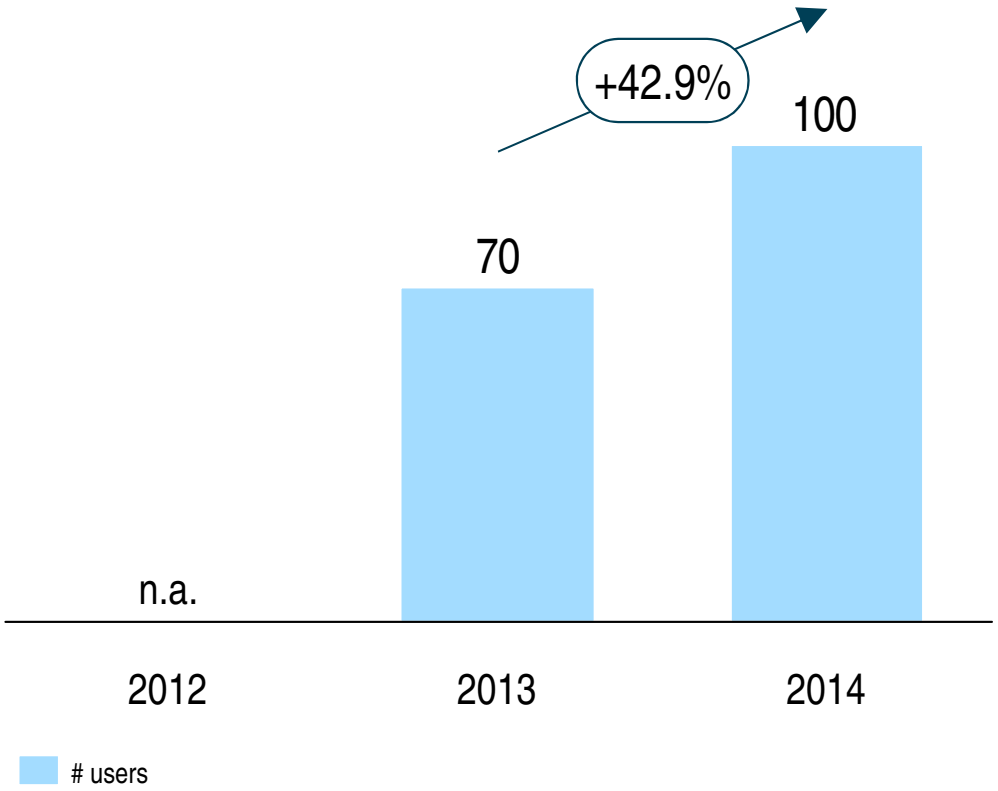
Source: Billboard, Soundcloud's management interview reports ,corporate website, press, SimilarWeb, Roland Berger analysis

Roland Berger Strategy Consultants

The platform has been gaining tremendous audience volume since 2013 (+42.9% in 2014)

Customer metrics

Number of monthly active users [Europe[1]; million]



Other key figures

224 m	estimated visits worldwide in April 2015
6-min.	visits on average in April 2015
1/3	of traffic came from the US in 2015
~10 m	music creators on Soundcloud in 2014

1) Europe: proxy based on press information

Source: Billboard, Soundcloud's management interview reports ,corporate website, press, SimilarWeb, Roland Berger analysis

Roland Berger Strategy Consultants

Soundcloud revenue is at 100% directly impacted by cultural content, either uploaded by composer, interpreter, author etc.

Synthesis of cultural content impact on overall value creation

		Revenue generated from cultural content	Share of total revenue	Comments & rationale
a	Direct impact on revenue [EUR m]	6	100%	> Originally created for musician to share their own content, especially embedded on other platforms > 100% of content uploaded on the platform is musical cultural content
	Indirect impact on revenue [EUR m]	NA	NA	
	Total impact for Soundcloud	**6**	**100%**	> Overall, **100% of revenue** and value are impacted by **cultural content (~6 m)** > Soundcloud is actively fighting against illegal content through Copyrights robots in order to reduce their share on the platform
b	Implicit value-creation levers	Very High		> Cultural content is a key condition for Soundcloud implicit value creation > No impact on collateral value creation should be noted as Soundcloud does not earn revenue from advertising

FINAL VERSION

Source: Billboard, Soundcloud's management interview reports, Roland Berger analysis

Roland Berger Strategy Consultants

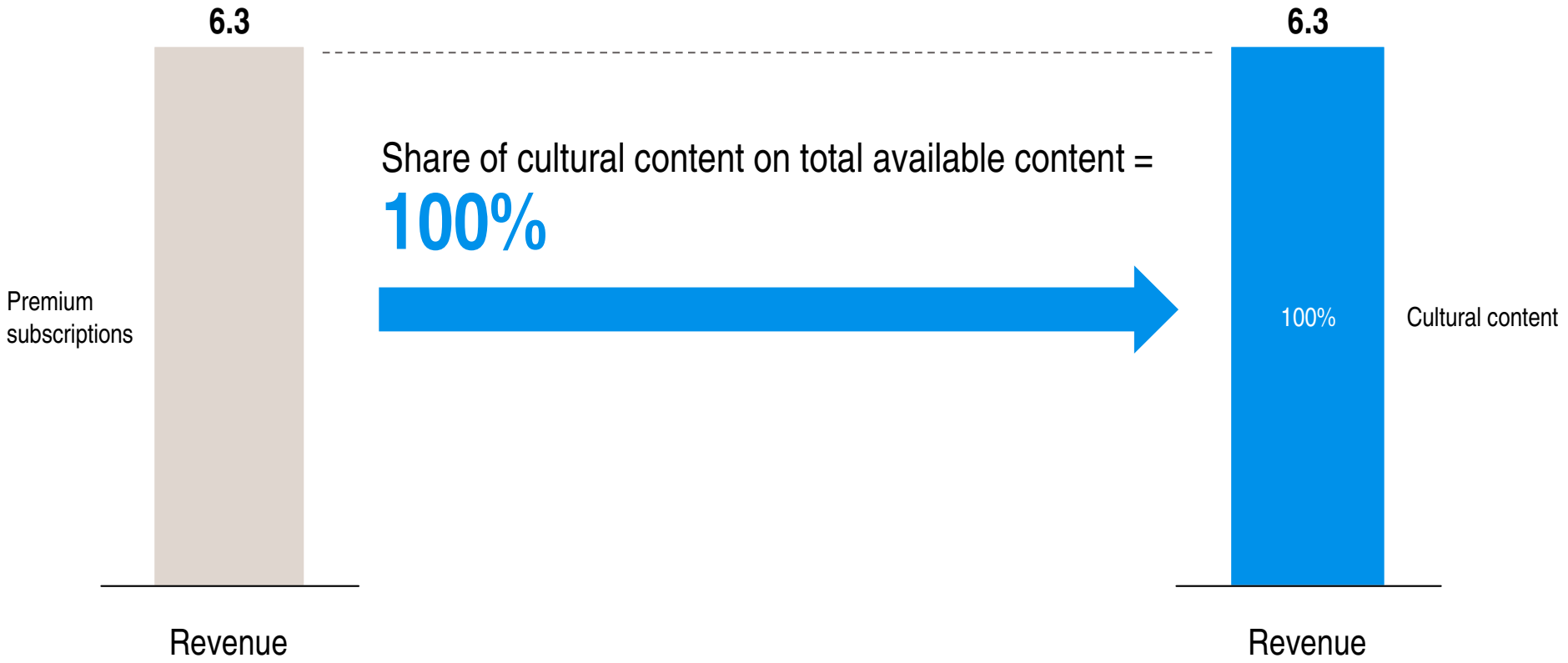
As revenue are solely generated by content uploaders – not by listeners – copyrighted content has a very low impact on value creation

Calculation of the cultural content direct impact on revenue

Total revenue [Europe[1]; 2014; EUR m]

Cultural content factor

Cultural content direct impact on revenue [Europe[1] ; 2014; EUR m]



1) Europe: proxy

Source: Billboard, Soundcloud's management interview reports, Roland Berger analysis

Roland Berger Strategy Consultants

Collateral value creation is very largely driven by cultural content for public video and audio platforms, though being hardly considered

Cultural content role in implicit and collateral value creation – Public video/ audio platforms

	Value creation drivers	Key Success Factors	Cultural content impact	Rationale
Implicit	Market capitalization	Ubiquity for users and advertisers	◑	> Cultural content highly contributes to the exhaustiveness and the relevance of public platforms and therefore directly contributes to customer adherence
	Market share	Thoroughness/ Relevance	◕	
	Share of wallet	Ubiquity for advertisers	◑	
	Brand image	Usage quality	○	
	Better understanding of users and needs	Content variety	◑	> Customer preferences and habits in term of content consumption enable public platforms to better address customer needs as well as data monetization
	Customer data monetization	Customer targeting	◔	
	Machine learning	Customer stickiness	◔	
Collateral	Direct value creation on sites embedding content from public cloud services	Virality + Content range and quality	●	> Strongest impact for players like Soundcloud, as it is **highly dependent on users uploads**, recordings, promotion and sharing of their originally-created sounds

➔ High contribution

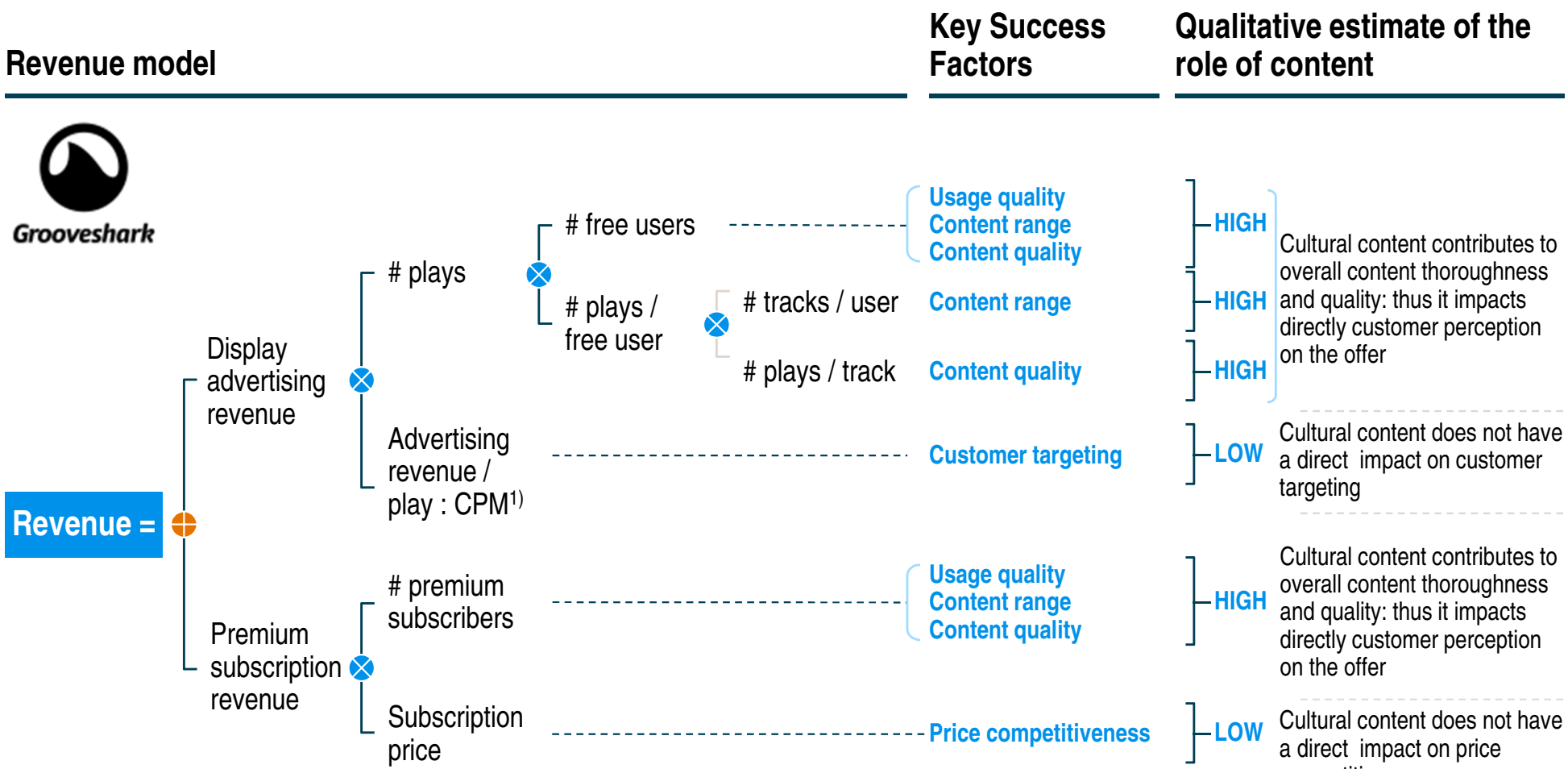
FINAL VERSION

Source: Roland Berger analysis

Roland Berger Strategy Consultants

"Rip-based" content audio/ video platforms managed to reach important market shares though being today progressively dismantled

Content role in Content-based cloud services business model



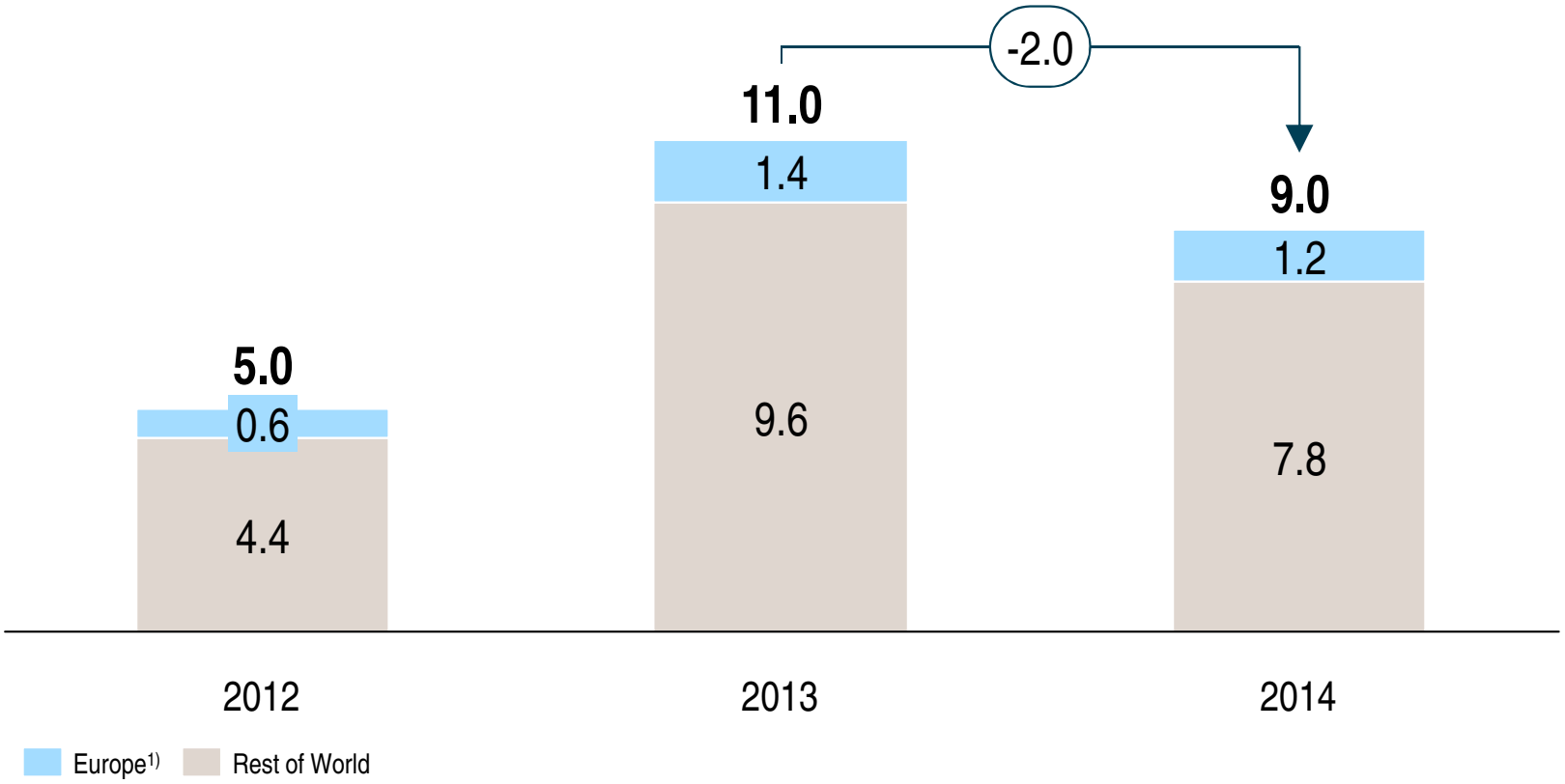
1) Cost Per Mille: price paid by advertisers for 1000 ads

Source: Roland Berger analysis

Roland Berger Strategy Consultants

After recording declining revenue in 2014, Grooveshark closed permanently in May 2015 due to various copyright infringement lawsuits

General key metrics – Revenue [World; EUR m]



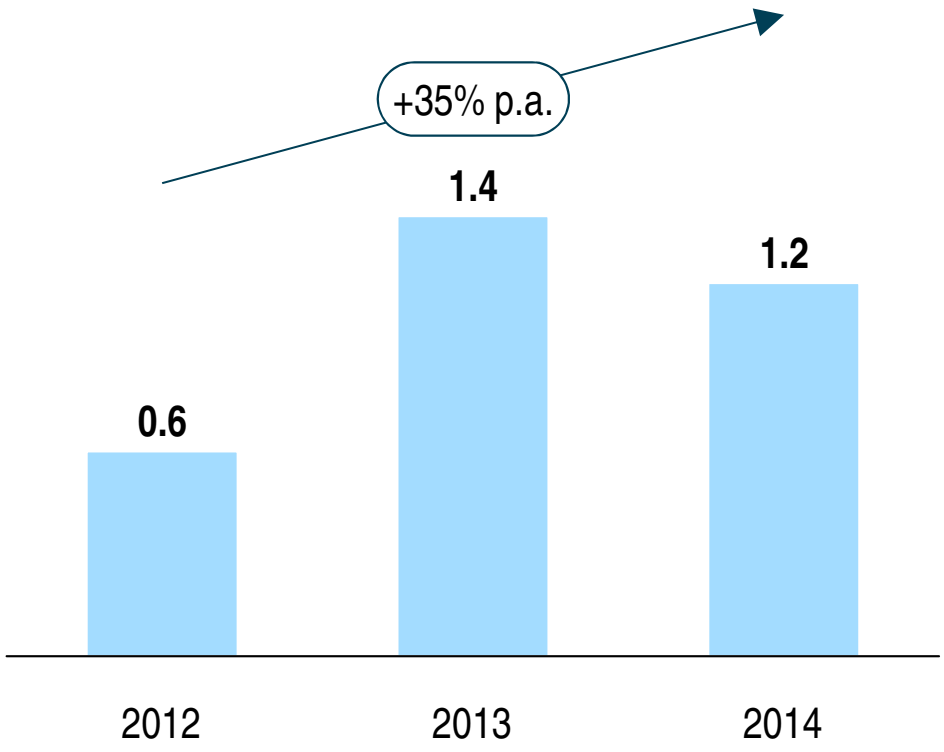
1) Europe: proxy based on press informations

Source: Press reviews, Roland Berger analysis

Although Grooveshark revenue grew at a 35% rate over 2012-2014, revenue declined in 2014

Financial key metrics

Revenue [Europe[1]; EUR m]



Grooveshark revenue grew by **35% p.a. over 2012-2014**

However, Grooveshark 2014 **revenue** dropped by **EUR 200,000**

In May 2015, the website was closed due to copyright infringement but it was re-opened a few days later

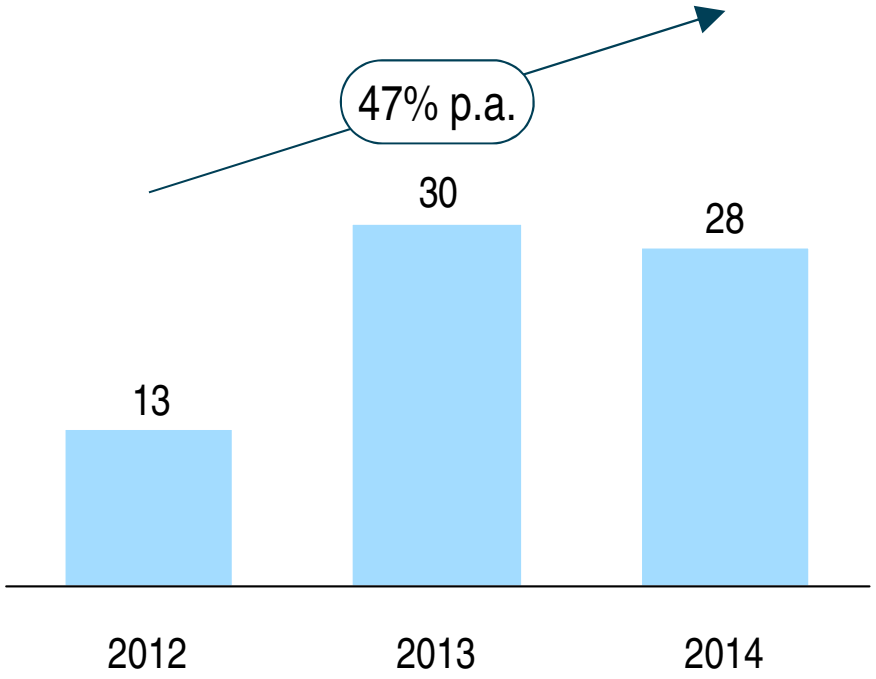
1) Europe: proxy

Source: Press, Roland Berger analysis

Grooveshark user base grew strongly over 2012-2014 (+46.8% p.a.) but started declining in 2014 (-2 m users), along with revenue evolution

Customer metrics

Number of monthly active users [Europe[1]; million]



Other key figures

33 m estimated visits worldwide in April 2015

5-min. visits on average in April 2015

1/3 of traffic came from the US in 2015

1) Europe: proxy

Source: Similarweb, press, Roland Berger analysis

Roland Berger Strategy Consultants

Grooveshark revenue model is fully based on non-remunerated cultural content

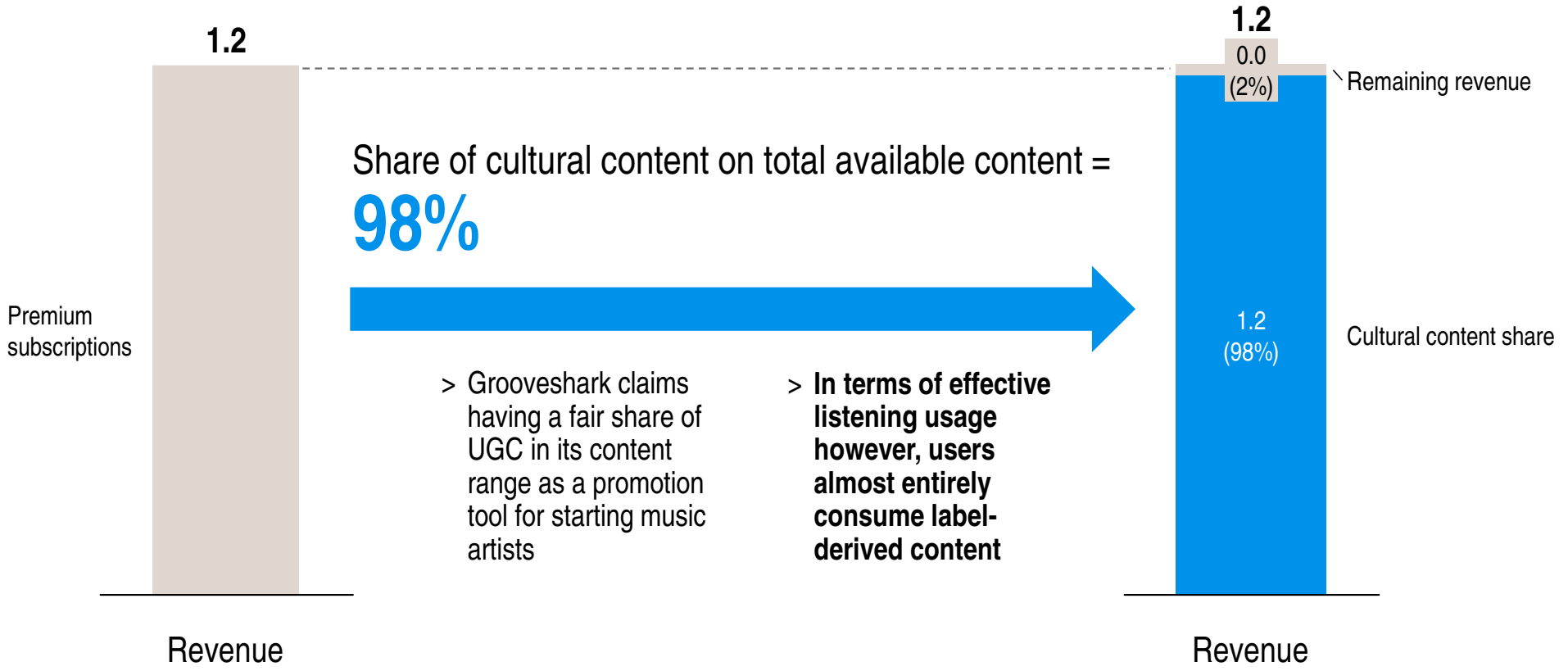
Calculation of the cultural content direct impact on revenue

Grooveshark

Total revenue [Europe[1]; 2014; EUR m]

Cultural content factor

Cultural content direct impact on revenue [Europe[1]; 2014; EUR m]



1) Europe: proxy

Source: Press reviews, Roland Berger analysis

Roland Berger Strategy Consultants

Cultural content on Grooveshark could have generated EUR 325 m of value in 2013

Assessment of potential value creation by "rip-based" content platforms [2014]

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Present situation

Annual rights gathered
EUR ~0 m

Assumptions

> **27.4 m** users in Europe in 2014

> 25% discount on Spotify rights payment benchmark

Potential of value generation

# users [millions]	**Discounted Spotify cost of content acq. / user**[1] [EUR]
27.4	x (75% x 15.8)

Value that could have been generated
up to EUR ~325 m

1) Spotify average royalties per user (all users; full year 2014)

Source: Digital Citizens Piracy report, Roland Berger analysis

Roland Berger Strategy Consultants

Collateral value creation is very largely driven by cultural content for public video and audio platforms, though being hardly considered

Cultural content role in implicit and collateral value creation – Public video/ audio platforms

Grooveshark

	Value creation drivers	Key Success Factors	Cultural content impact	Rationale
Implicit	Market capitalization	Customer stickiness	◑	> Cultural content highly contributes to the exhaustiveness and the relevance of public platforms and therefore directly contributes to customer adherence
	Market share	Content range Content quality Usage quality	◕	
	Share of wallet	Virality	◑	
	Brand image	Usage quality	○	
	Better understanding of users and needs	Content variety	◑	> Customer preferences and habits in term of content consumption enable public platforms to better address customer needs as well as data monetization
	Customer data monetization	Customer targeting	◔	
	Machine learning	Customer stickiness	◔	
Collateral	Direct value creation on sites embedding content from public cloud services	Virality + Content range and quality	●	> Strongest impact for players like Grooveshark, as it is **highly dependent on users capacity to upload** attractive / relevant content and go viral

➔ **High contribution**

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Source: Roland Berger analysis

4.5 Private cloud

Roland Berger Strategy Consultants

Internet service providers have developed remote access solutions to cultural content private copies for their customers

Technical intermediaries – Private Cloud: nPVR

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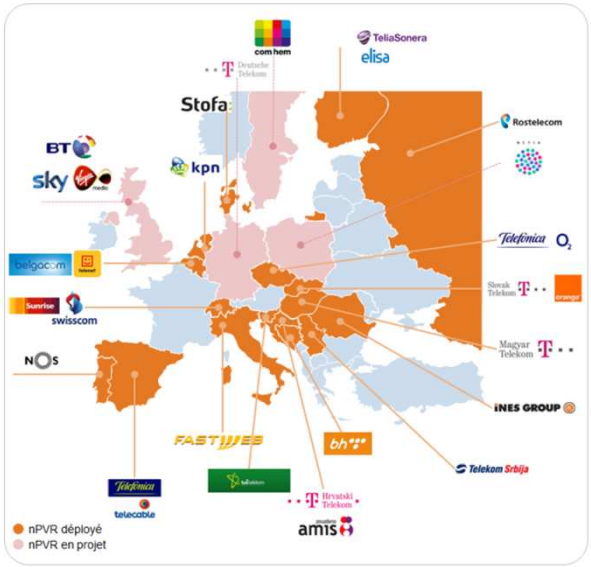
Who are they?

kpn, belgacom, telecable, Telefónica, FASTWEB

Map of nPVR deployment in Europe [2014]



Why are they important?

> TV content record services accessible from multiple devices, stored on operators servers (nPVR) or on a NAS provided by the operators (NAS based DVR)

> Currently with different legislative constraints depending on the country

How do they generate revenue?

Main revenue generation approach

> nDVR option subscription Revenue

> TV subscription

Main revenue generation levers

> # subscribers

> Usage levels

Source: IDATE, Roland Berger analysis

Roland Berger
Strategy Consultants

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The impact of cultural content on technical intermediaries revenue generation reaches 62% of their total revenue, to an amount of EUR 13.7 bn for Europe in 2014

Technical intermediaries create value thanks to cultural content in three ways:

- **Direct impact**, through **direct consumption or showcase** of (or monetized direct links to) cultural content (e.g. Google AdWords, in Facebook feed,…)
- **Indirect impact**, thanks to **the service stickiness, usage intensity and usage repetition** that are driven by the abundance of content made available (in other words: what revenue would remain if there was no cultural content made available by the service)
- **Implicit or collateral impact** (qualitative): in a fast-moving, technically complex, **oligopolistic and usage-driven competition**, market leaders derive increased future revenue generation capabilities, consumers knowledge and market valuation from those same **usages that are significantly driven by cultural content**

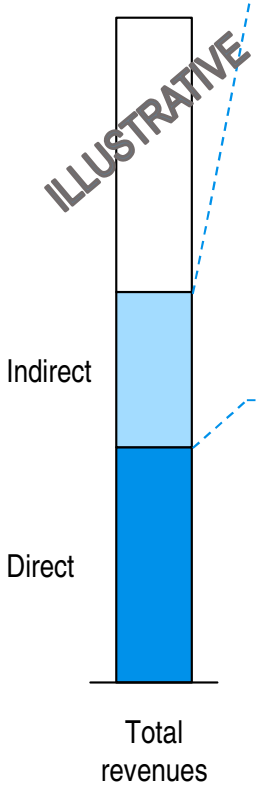
Source: Roland Berger analysis

The overall EU value gap yields from a bottom-up and segmented approach

Methodology

1. Analysis of the Value Chain and identification of key players per typology

2. Assessment for main players, of the share of revenue directly and indirectly generated / due to cultural content



Indirect : role played by cultural content in the economic model of the player (i.e. **additional revenue that may disappear if not for cultural content**)

> **Is there an unfair / unjustified value gap that needs to be adjusted ?**

Direct : revenue generated from the direct monetization and direct commerce of cultural content or related advertising inventory

> **Is it a "normal" commercial deal ?**
> **Is the distribution legal ?**
> **Is there an agreement with right holders ?**
> **Is there a value generation gap ?**

3. Extrapolation of the results to build the European picture

> **Extrapolate** data either for an **industry** (eg music) or to a given **typology** of players (eg search engine)

> **Example** : Google has 96% of market share (# users in EU, 2014), which easily provides a reliable picture of search engines

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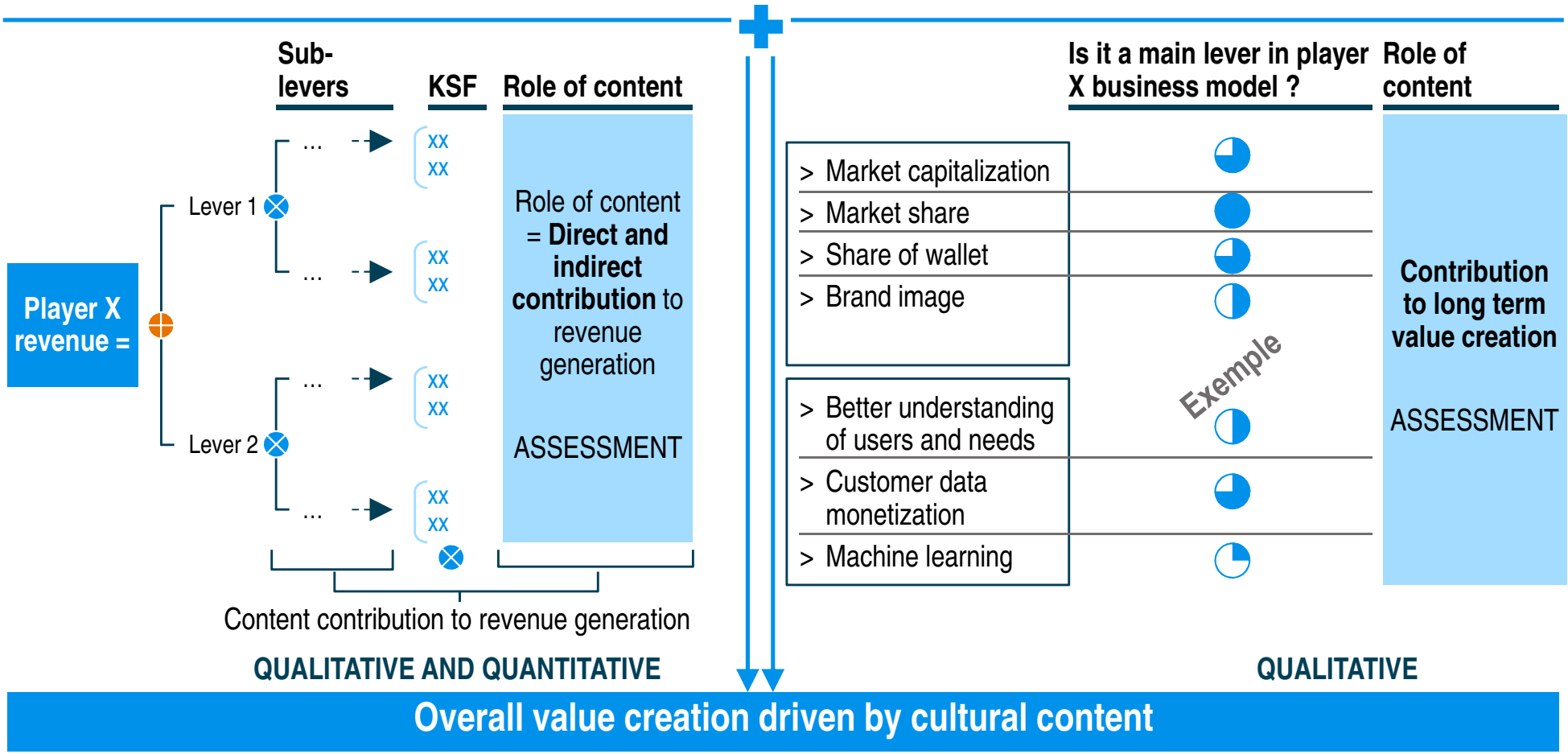
Source: Roland Berger analysis

Content direct and indirect contribution to revenue generation can be assessed as well as implicit contribution to value creation

Content impact on value creation



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Source: Roland Berger analysis

The impact of cultural content on technical intermediaries revenue generation may reach 62% of their total revenue, to an amount of EUR 13.7 bn for Europe in 2014

Overall **role of cultural content** in revenue generation by Technical Intermediaries is **very significant,** and stands at **EUR 13.7 bn for Europe in 2014, i.e. 62%** of Technical Intermediaries revenue

> Direct impact amounts to EUR 5.0 bn, or 23% of T.I. revenue, while indirect impact reaches EUR 8.7 bn, or 40% of revenue

> **Most of the value creation relates to Search Engines**, in part due to their very large market: for S.E. only, cultural content has an impact of **EUR 10.5 bn on revenue** (65% of the total), and **for Google only, EUR 10.1 bn**. Direct impact reaches 18% of revenue, while **indirect impact reaches 47%**, due to the major role played by cultural content in user stickiness and frequency and depth of usage

> **Social Networks** are the second largest beneficiaries of cultural content-driven revenue generation: **total is above EUR 2.2 bn (70%)** about 43% direct and 28% indirect due to the sheer **quantity of embedded content**, that drives advertising revenue

> **Public platforms** such as YouTube are highly reliant on cultural content, which have an impact on **92% of their revenue (EUR 0.8 bn)**, largely driven by **direct consumption** (66% of their revenue); **Aggregators** are in a similar situation (**85% total impact**, to EUR 0.1 bn, from which 75% direct), while **Lockers** are impacted **only to 3%** of their revenue

> Such figures do not include the "hidden" impact of illegal usages, which are cannibalizing value worth billions of Euros

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Source: Roland Berger analysis

The direct and indirect European cultural content value differ from one intermediary typology to the other – overall several billions at stake

Overview of technical intermediaries – [Cultural content in Europe; EUR m ; %][1)]

Main player identified and analyzed					Europe			
Typology and player example		Total Revenue	Direct impact of CC	Indirect impact of CC	Total Impact of CC	Total Market value	Direct impact of CC	Indirect impact of CC	Total Impact of CC
Search engines	Google	15 470	~2 835 (18%)	~7 270 (47%)	~10 105 (65%)	16 140	~2 960	~7 590	~10 550
Content aggregators (music)	tunein	20	~15 (75%)	~2 (10%)	~17 (85%)	100	~75	~10	~85
Social Media	facebook	2 450	~1040 (43%)	~675 (28%)	~1 715 (70%)	3 160	~1 340	~870	~2 210
Lockers	box	100	~3 (3%)	-	~3 (3%)	1 740	~50	-	~50
Public video platforms	YouTube	720	~475 (66%)	~190 (26%)	~665 (92%)	845	~555	~220	~775
TOTAL						21 985	~4 980 *(23%)*	~8 690 *(40%)*	~13 670 *(62%)*

1) All figures rounded from most accurate calculation – hence offsets in sums of figures presented

Source: Roland Berger analysis

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Methodology (1/5)

Global methodology (1/2)

> **Cultural content** is considered in a broad sense, covering:
  - Press
  - Music
  - Radio
  - Books
  - Live art performances (including music)
  - TV
  - Cinema
  - Video Games
  - Visual Arts (incl. architecture)
  - Advertising
  - Internet Videos

> **Usage** covers different types of activities related to cultural content such as access, e-commerce, showcasing and discussing on social media, and describing and providing information around cultural content. Those terms are used in a broad sense, meaning that the usages on the considered site may requiring up to 1 click to access streaming, downloading, buying, discussing,… cultural content (i.e. potentially through another site)

Global methodology (2/2)

> **5 typologies of technical intermediaries** have been considered in the digital ecosystem:
  - Search engines
  - Content aggregators
  - Social media
  - Personal cloud
  - Public video platforms

> **One key player** has been picked per typology of intermediaries:
  - Google for search engines
  - TuneIn for content aggregators
  - Facebook for social media
  - Box for personal cloud
  - YouTube for public video platform

> **Share of revenue directly (and indirectly) generated** with a role played by cultural contents has been assessed for all these players and a **scale-up of the results** to the full market has been done in order to build the full picture for each type of intermediaries.

Methodology (2/5)

Sources

> All revenues estimates and extrapolation of the results were based on **3 types of sources**:
  - **Publicly available data** from players
  - **4 studies** specifically performed in **France** (Google study in February 2015 and Facebook usage in March-April 2015) and **Italy** (Google study in July 2015 and Facebook usage in August 2015)
  - Usage studies have been run with Nielsen/Médiamétrie and Sépage (search engines, passive study based on semantic machine learning) and with Ipsos (social networks, declarative study)
  - **Other publicly available data** related to usage and markets (including population, households, share of connected population, advertising market data,…)

> **Typology of impact**

Technical intermediaries create value thanks to cultural content in three ways:

> **Direct impact** covers the generation of revenue through direct monetization (such as through advertising enabled by cultural content-generated inventory, or sponsored links directing to sites monetizing cultural content, sale of cultural content,….) or direct commerce of cultural content. *Analogy: if a general retailer stops selling cultural goods, the direct impact would be the revenue lost instantly due the shutdown of this part of its operations*

> **Indirect impact** covers the additional revenue that would disappear if there was no cultural content available to the service, due to impact on service stickiness, usage intensity and usage repetition,… *Analogy: if a general retailer stops selling cultural goods, its customers may shop less frequently, and not go through the whole store in search of cultural goods, thus leading in the medium term to an additional decrease in revenue*

> **Implicit or collateral impact** (qualitative): in a fast-moving, technically complex, oligopolistic and usage-driven competition, market leaders derive increased future revenue generation capabilities, consumers knowledge and market valuation from those same usages that are significantly driven by cultural content. Collateral impact has been assessed qualitatively

> **We consider Direct impact to be more significant than Indirect impact in terms of economics understanding**, as it can be assessed very directly based on usage data, rely on very few hypothesis, and directly represent a material link between revenue generation and usages related to cultural contents

Methodology (3/5)

Estimation of impact on revenues

As 2 impacts were identified, 2 types of calculation were made:

> Revenue generated from the **direct monetization** and **direct commerce** of cultural content or related advertising inventory is considered as direct impact. This impact is very material and can be assessed with rather strong accuracy thanks to a direct identification of the role of cultural content and thanks to usage studies

> Indirect impact is the amount of **additional revenues likely to disappear if cultural content was to disappear** from the web. This impact has been estimated thanks to hypothesis on the evolution of customer usages and is more difficult to assess due to the absence of "like-for-like" examples.

1. Google and the search engine market

> **Google revenue** in a given geography is either a public data or an estimate based on the number of connected inhabitants (and based on the closest available data) and is split in 4 types of revenue: **Google.com and Google network which belong to search engine scope** and YouTube and other revenues considered out of scope. This split is based on worldwide distribution of Google's revenues

> Direct revenues in Google case come from **sponsored links that have been clicked and which lead to sites related to cultural content** (access to press, non-press access, e-commerce, social, and other cultural links): this figure is directly available from usage studies

> For **indirect revenues**, the average of 2 estimates based on 2 methodologies has been used:

  – One approach evaluates the share of cultural content (access to press, music, video games, TV…) in natural results; the hypothesis is that in the long term overall revenue would decrease by the same amount as available clicks (in addition to revenue lost from direct impact) due to reduced usage. This figure is directly available from usage studies

  – Another approach considers that all users would end-up with the same level of usage as current users which do not consume a lot of cultural content. This approach reveals the stickiness to the service due to its exhaustiveness and relevance. The population of users is split into 2 groups, one with strong cultural content consumption (1) and one with weak cultural content consumption (2). (1) and (2) have roughly the same size. It appears consumers in (2) have overall weaker usages than (1). The potential "indirect + direct" impact would be proportional to the loss of clicks if all users were to adopt the same usages as consumers in (2)

> **Google had a 92% to 96% market share in terms of users in 2014 for the considered geographies**; Assumption on other players' monetization capacity: 50% of Google's (industry estimate)

> *For Europe, the impacts in % have been assumed to be the average between Italy and France*

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Methodology (4/5)

2. TuneIn and the content aggregator market

> TuneIn revenues in a given geography are based on percentage of users in considered geography vs. worldwide # users / revenues ; based on publicly available figures, TuneIn market share is estimated at 20% of the market

> Direct impact is based on cultural content on radio stations (music & news), which is publicly available data at Europe level. Without this content, usage or number of channels would decrease proportionally, thus leading to less revenue (less inventory or lower fees)

> Indirect impact is based on contribution of cultural content to ubiquity and adherence, in addition to direct impact, based on estimates of real consumption of content in radio (cultural vs. non-cultural)

> *Impacts in % have been assumed to be similar across all countries (thus also for Europe)*

3. Facebook and the social media market

> **Facebook revenues** are estimated thanks to **revenue per user worldwide** and **number of users in a given geography**; worldwide and European **social media markets** are based on publicly available studies; Facebook market share has been assumed to be constant over Europe at 78%

> Facebook revenues are split between displays advertising, native advertising and payment & other fees, this split is public for Europe, and the same proportion has been applied throughout

> To calculate direct and indirect impacts, **only displays advertising and native advertising** have been taken into account, being directly related to usages (# of page views for display and length of read newsfeed for native advertising)

> **Direct impact** is calculated with the percentage of **cultural content published or shared on Facebook** applied to native advertising revenues: published and shared content are the only contributors to length of read newsfeed, thus proportionally generating inventory for native advertising

> For **indirect impact** the approach considered that all users would end-up with the same level of usage as current users which do not consume a lot of cultural content, for all types of actions. This approach reveals the stickiness to the service due to its richness. The population of users is split into 2 groups, one with strong cultural content consumption (1) and one with weak cultural content consumption (2). (1) and (2) have roughly the same size. It appears consumers in (2) have overall weaker usages than (1). The potential "indirect + direct" impact would be proportional to the loss of actions if all users were to adopt the same usages as consumers in (2) : as no one will click on / publish cultural content, cultural content consumers / influencers will use the site much less, thus reducing the overall inventory available for monetization

> *For Europe, the impacts in % have been assumed to be the average between Italy and France*

Methodology (5/5)

4. Box and the personal cloud market

> Percentage of cultural content share with private storage is 11%, estimation based on private copy remuneration on hardware devices in France. Cultural content share for professional use is estimated at 0%

> This represents the direct impact. No indirect impact has been assessed

> *Impacts in % have been assumed to be similar across all countries (thus also for Europe)*

5. Youtube and video platform market

> Direct impact is estimated with percentage of musical and video cultural content : those figures are available from various studies; we have used figures from France (Hadopi study) for all estimates

> Revenue generation being driven by advertising inventory, i.e. number of views, there is a direct correlation between type of contents consumed and share of revenue

> Indirect impact is estimated based on the same approach as for Content Aggregators

> *Impacts in % have been assumed to be similar across all countries (thus also for Europe)*

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It's character that creates impact !

Roland Berger
Strategy Consultants