PwC Entertainment & Media Outlook
2017-2021
Consumer/end-user & advertising spending

5 Year historical & 5 Year forecast data

54 countries

17 segments

- Data consumption
- Video games
- Internet access
- TV advertising
- Cinema
- Music
- Radio
- Magazine publishing
- Newspaper publishing
- Book publishing
- Out-of-home advertising
- Business-to-business
- E-sports
- Internet advertising
- Internet video
- Traditional TV and home video
- Virtual reality

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Emerging technologies are enabling companies to differentiate by creating innovative user experiences.
The accelerating speed of technological change is opening up large opportunities for innovation in product offerings that revolve around user experience.
Technology companies now dominate the world’s largest companies measured by market capitalization

Top 5 public traded companies by market cap (June 30)

2007

- Exxon
- General Electric
- Microsoft
- Shell
- AT&T (Other)

2017

- Apple
- Alphabet
- Microsoft
- Amazon
- Berkshire Hathaway Inc. (Other)

Source: FT Global 500 & Ycharts.com
Companies are already leveraging emerging technologies to enhance user experience

*Worldwide tech company* developing next mobile OS with AI-powered features to streamline consumer experience.

*Global telecom company* invests in entertainment operating system to deliver a personalized entertainment experience across all devices.

*Multinational E&M conglomerate* has created a patent-pending 3D printer.

*E-commerce company* is investing in an IoT voice-led operating system to enable smart devices.

*Multinational tech company* providing real-time sports statistics and point-by-point analysis.

*Social networking company* releases anti-harassment capabilities to enhance user safety.

The sharing economy shifts consumer behaviour from owning assets.

*A U.S-based VR startup* is planning to open a VR multiplex immersing consumers in a personalized entertainment experience.
What Are the Global Trends?
Expected global growth in E&M expenditures of 4.3%

- **US**: 3.7%
- **Scandinavia**: 3.1%
- **Germany**: 1.8%
- **Russia**: 7.2%
- **Japan**: 1.8%
- **China**: 8.3%
- **India**: 10.5%
- **Global**: 4.3%
- **Brazil**: 4.7%
- **France**: 2.4%
- **UK**: 3.0%
- **Brazil**: 4.7%
- **Global**: 4.3%
- **BRIC**: 8.0%
- **Mature**: 3.1%
**E-sports and internet video are expected to outperform the other segments in the global E&M market in terms of percentage growth**

Global growth by segment 2016-2021F

- E-sports: 21.7%
- Internet video: 11.6%
- Internet advertising: 9.8%
- Video games: 8.2%
- Internet access: 6.0%
- Cinema: 4.4%
- Total music revenue: 3.5%
- TV advertising: 2.8%
- Business-to-business: 2.7%
- Radio: 2.1%
- Total traditional TV and home video: 1.3%
- Books: 1.1%
- Magazines: -0.5%
- Newspaper: -2.7%
The Scandinavian E&M market
Spending on digital channels is expected to drive growth in the Scandinavian E&M market.

Digital is defined as:
- Online and mobile internet advertising
- Mobile TV subscription
- Digital music
- Electronic home video
- Online and wireless video games
- Digital consumer magazines circulation spending
- Digital newspaper circulation spending
- Digital trade magazine circulation spending
- Electronic consumer, educational, and professional books
- Satellite radio subscriptions

2016-2021F CAGR

- Internet Access: 5.0%
- Digital: 8.1%
- Non-Digital: -0.9%
- Total Digital and Non-Digital: 3.1%
Internet advertising is expected to lead growth across media segments in the Scandinavian E&M market towards 2021

Scandinavian growth by segment 2016-2021F

<table>
<thead>
<tr>
<th>Segment</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet advertising</td>
<td>8.3%</td>
</tr>
<tr>
<td>Video games</td>
<td>6.7%</td>
</tr>
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<td>Internet access</td>
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<td>Business-to-business</td>
<td>1.4%</td>
</tr>
<tr>
<td>TV subscriptions and licence fees</td>
<td>1.1%</td>
</tr>
<tr>
<td>TV advertising</td>
<td>0.9%</td>
</tr>
<tr>
<td>Book publishing</td>
<td>-0.2%</td>
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<tr>
<td>Filmed entertainment</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Magazine publishing</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Newspaper publishing</td>
<td>-4.6%</td>
</tr>
</tbody>
</table>
Digital advertising revenues are expected to represent 58% of total Scandinavian advertising revenues in 2021.
Mobile is expected to make up more than 70% of internet advertising revenue in USA by 2021
User Experience Driving Growth
Print will continue to see a negative growth rate and digital will not compensate for this loss

Year-over-year % growth rate in Scandinavia

2016–2021F CAGR
11.7 %  • Digital circulation
3.1 %  • Digital advertising
- 6.0 %  • Print advertising
- 6.7 %  • Print circulation
Mobile will continue to be the biggest growth story towards 2021 in internet advertising.

Internet advertising market by sub segment in Scandinavia

2016 - 2021F CAGR

- Mobile: 17.6%
- Search: 10.7%
- Video: 8.9%
- Classified: 2.8%
- Banner/Display: 0.3%

2016
- 3,788 USD millions
  - Mobile: 25%
  - Search: 35%
  - Video: 16%
  - Classified: 19%
  - Banner/Display: 4%

2021F
- 5,638 USD millions
  - Mobile: 17%
  - Search: 40%
  - Video: 24%
  - Classified: 15%
  - Banner/Display: 4%
Number of apps per smartphone & tablet is expected to continue to grow and drive growth in mobile internet advertising.

Apps per smartphone & tablet

2016–2021F CAGR
- 10.5% Central & Eastern Europe
- 9.2% Scandinavia
- 7.7% Western Europe
- 6.0% US
The gap between TV advertising revenue and Internet revenue is increasing

Internet and TV advertising revenues in Scandinavia

2016–2021F CAGR
8.3% Internet
0.9% TV
Traditional losing ground to online streaming services focusing on user experience

Traditional TV advertising is losing ground to online streaming services.

2016–2021F CAGR

Online: 14.5%
Multichannel: 2.8%
Terrestrial: -0.9%
Electronic home video is expected to grow, but cinema is still keeping up
Despite growth in streaming, live music will continue to be the main revenue stream in the music industry.

Scandinavian music revenue

2016–2021F CAGR

- Streaming: 6.7%
- Live music: 2.5%
- Physical music: -3.7%
Emerging technologies will change how companies generate, distribute and control content.
Among emerging technologies, AI, IoT and VR received most funding in 2016

Global VC funding, Essential Eight technologies

- AI: 29%
- IoT: 24%
- VR: 14%
- Other: 33%

(Robots, AR, Drones, 3D Printing and Blockchain)

5,876 USD millions

Source: CB Insights, PwC, VC Funding
Benefits from AI include an improved ability to tap into consumer preferences and generate personalized content

AI can help companies innovate content creation and improve customer experience

Simplifying content creation
- AI-generated music
- AI generated video-ads

Improving the customer experience
- AI-generated content curation (e.g. Spotify playlists)
- AI-generated product recommendations (film, TV, music)

Better, more creative decisions
- Maximization of film and content licensing revenues
- AI-generated insight from video and social media

Freedom of repetitive tasks
- Programmatic ad buying
- Newsletter curation, creation and distribution
- AI-generated sports summaries, film scoring and stock music

Artificial Intelligence (AI) could contribute up to $15.7 trillion to the global economy by 2030 and the E&M industry can seize a significant share of this gain

PwC AI-report: Sizing the prize
Scandinavia is better positioned to create value from Internet Of Things compared to the rest of the world

Key drivers for the Scandinavian IoT value creation potential

1 Well developed fiber- and internet-infrastructure

2 4G coverage is widely spread across Scandinavia. Sweden is leading in testing 5G coverage.

3 On average, each person in the Nordics has almost 3 devices connected to the internet in 2016. By 2021, this is expected to grow to 6 devices per capita, which represents four times as many devices as in the rest of the world.

By expanding to new or even non-existing entertainment platforms, E&M companies can unlock the potential of IoT

PwC AI-report: Sizing the prize

67M USD
IoT Scandinavian market size 2016

20 %
Nordic IoT CAGR 2016-2021 in the Nordics 2016 - 2021

We are at an amazing point in history for artists. A revolution is going to happen, and next year it’s going to take over. It’s the ability of artists to have the control and the say of what they do with their music at large. The answer to this is in the blockchain.”

- Imogen Heap, British singer & songwriter
CEO perspective: E&M CEOs are mostly concerned about changing consumer behaviour

- 81% of E&M CEOs are concerned about changing consumer behaviour
- 78% of E&M CEOs are concerned about availability of key skills
- 78% of E&M CEOs are concerned about uncertain economic growth
- 77% of E&M CEOs are concerned about the speed of technological change
- 75% of E&M CEOs are concerned about volatile energy costs
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