Global Consumer Spending on Media & Technology Forecast 2018-22

pqmedia CUSTOM MEDIA RESEARCH

6th Annual Edition of the Leading KPI Benchmark for Comprehensive, Consistent and Actionable Data and Analysis of Consumer Spending on Digital and Traditional Media and Technology

Report #3 of 3 PQ Media's Global Media & Technology Forecast Series 2018

Digital Media

*Content
- -Unit Purchases
- -Subscriptions

*Technology
- -Access
- -Devices
- -Software & Services

Traditional Media

*Content
- -Unit Purchases
- -Subscriptions

*Technology
- -Access
- -Devices

Top 20 Global Markets

*United States	*Japan
*Argentina	*Mexico
*Australia	*Netherlands
*Brazil	*Poland
*Canada	*Russia
*China	*South Africa
*France	*South Korea
*Germany	*Spain
*India	*Taiwan
*Italy	*United Kingdom

- **Most credible, consistent & actionable consumer spend on media & tech intelligence covering 2012-22 period, with 2017 actuals, 2018 pacing, 2018-22 forecasts**
- **Only primary source delivering data & analyses tracking all consumer media content & technology platforms worldwide**
- **Exclusive data, insights & projections by consumer media spend sectors, platforms, content & technology categories and shift from traditional to digital media**
- **Original industry definitions & segmentation, current market sizing & growth projections, key growth drivers & emerging challenges**

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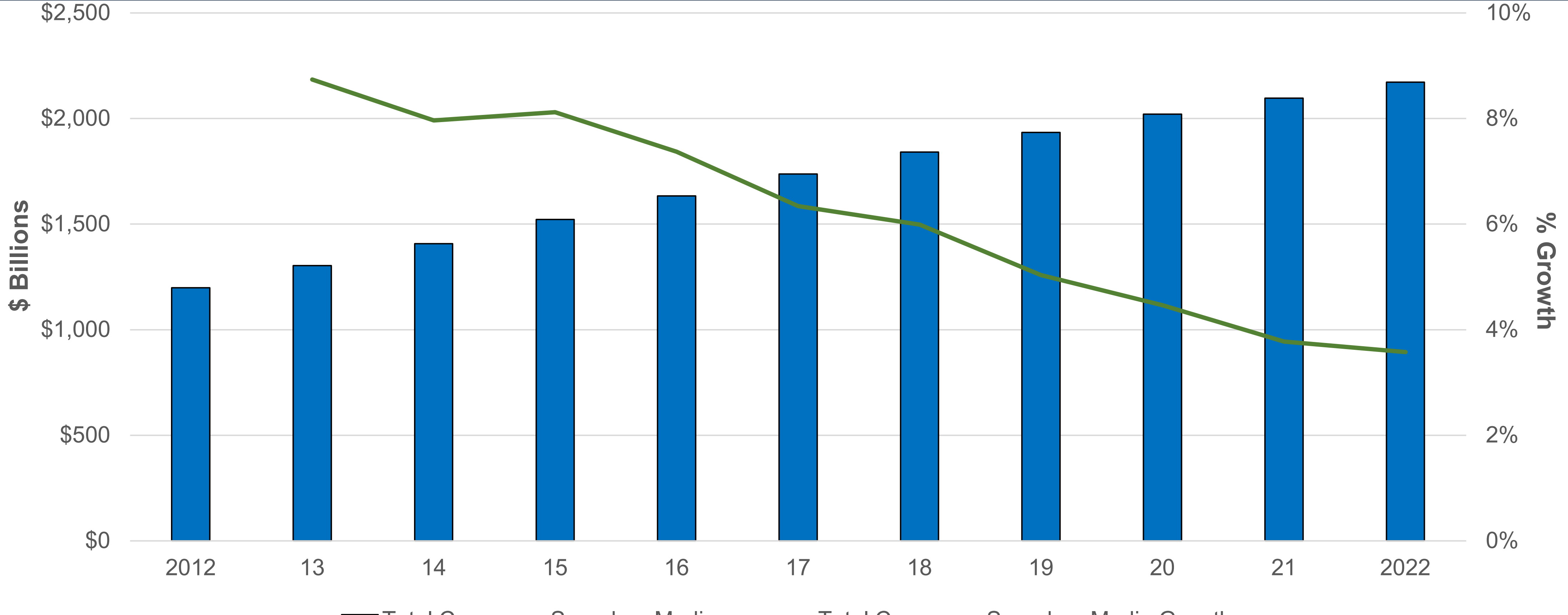
Global Consumer Spending on Media Content & Technology Forecast 2018-22
Key Takeaways

Global Consumer Spending on Media Results 2017 & 2018; Forecast 2019

- **Consumer Spending on Total Media Content & Technology**
  - Global consumer spending on overall media content & technology rose 6.3% in 2017 to $1.737 trillion
  - Total consumer spending on media content increased 7.5% in 2017 to $647.60 billion, total spend on media tech rose 5.6% to $1.090 trillion
  - The average Global consumer spent $309.55 on overall media content & tech, representing a 5.4% gain in 2017
  - Overall consumer spending on media content & technology is estimated to have increased 6% in 2018 to $1.842 trillion
  - Global consumer spend on overall media is projected to rise 4.5% in 2019 and at a 4.6% CAGR from 2017-22 to $2.172 trillion
  - Average per capita spend on overall media reached $325.25 in 2018 and is projected to rise at a 3.7% CAGR to $371.73 in 2022
- **Consumer Spending on Traditional Media Content & Technology**
  - Global consumer spending on traditional media content & technology rose 0.7% in 2017 to $598.18 billion
  - The average Global consumer spent $106.58 on traditional media content & tech, representing a 0.2% drop in 2017
  - Consumer spend on traditional media content & technology is estimated to have increased 1.1% in 2018 to $604.79 billion
  - Global consumer spend on traditional media is projected to rise 0.5% in 2019 and at a 0.4% CAGR from 2017-22 to $611.03 billion
- **Consumer Spending on Digital Media Content & Technology**
  - Global consumer spending on digital media content & technology rose 9.5% in 2017 to $1.139 billion
  - The average Global consumer spent $202.98 on digital media content & tech, representing an 8.6% gain in 2017
  - Consumer spend on digital media content & technology is estimated to have increased 8.6% in 2018 to $1.237 trillion
  - Global consumer spend on digital media is projected to rise 6.3% in 2019 and at a 6.5% CAGR from 2017-22 to $1.561 trillion

Global Consumer Spend on Total Media Content & Tech Rose 6.3% in 2017 to $1.737 T; Projected to Post 4.6% CAGR Increase to $2.172 T in 2022

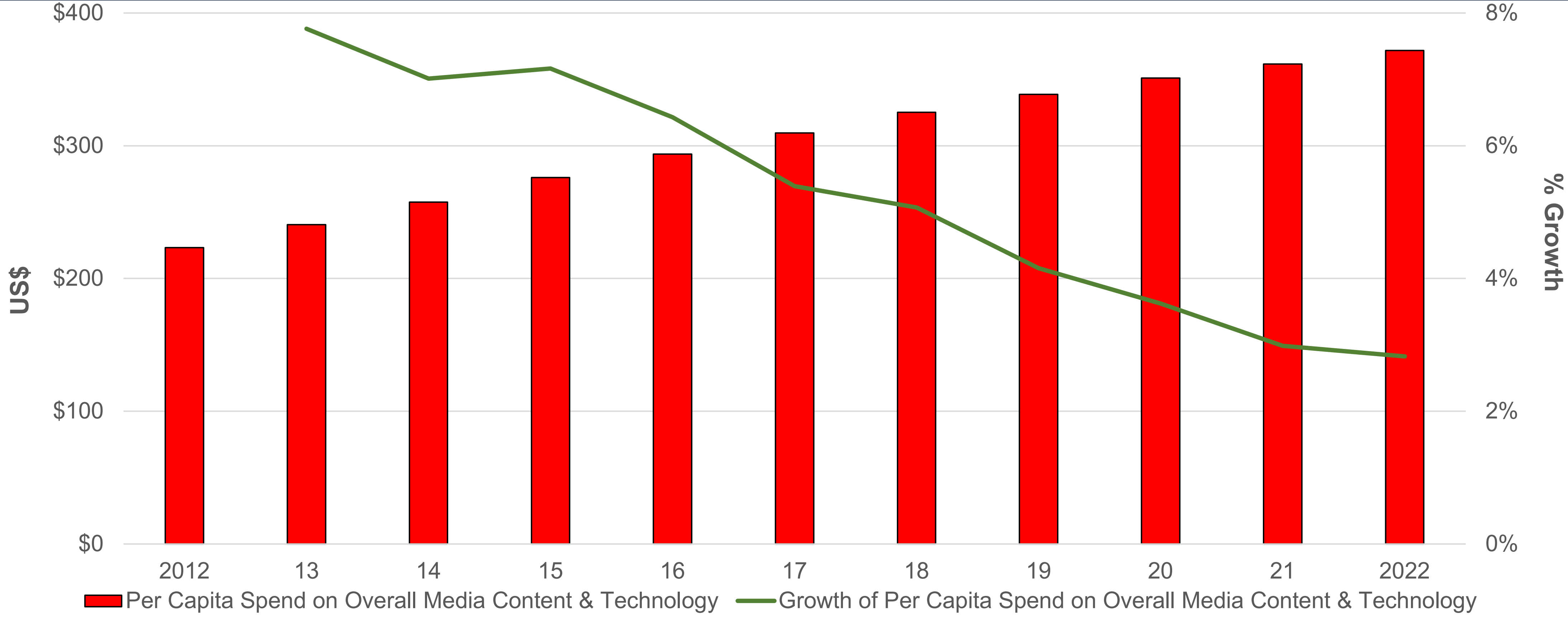
PQ Media's Global Consumer Spending on Total Media Content & Technology & Growth, 2012-2222



Source: PQ Media

Global Per Capita Spend on Overall Media Content & Tech Rose 5.4% in 2017 to $309.55; Projected to Post 3.7% CAGR Increase to $371.73 in 2022

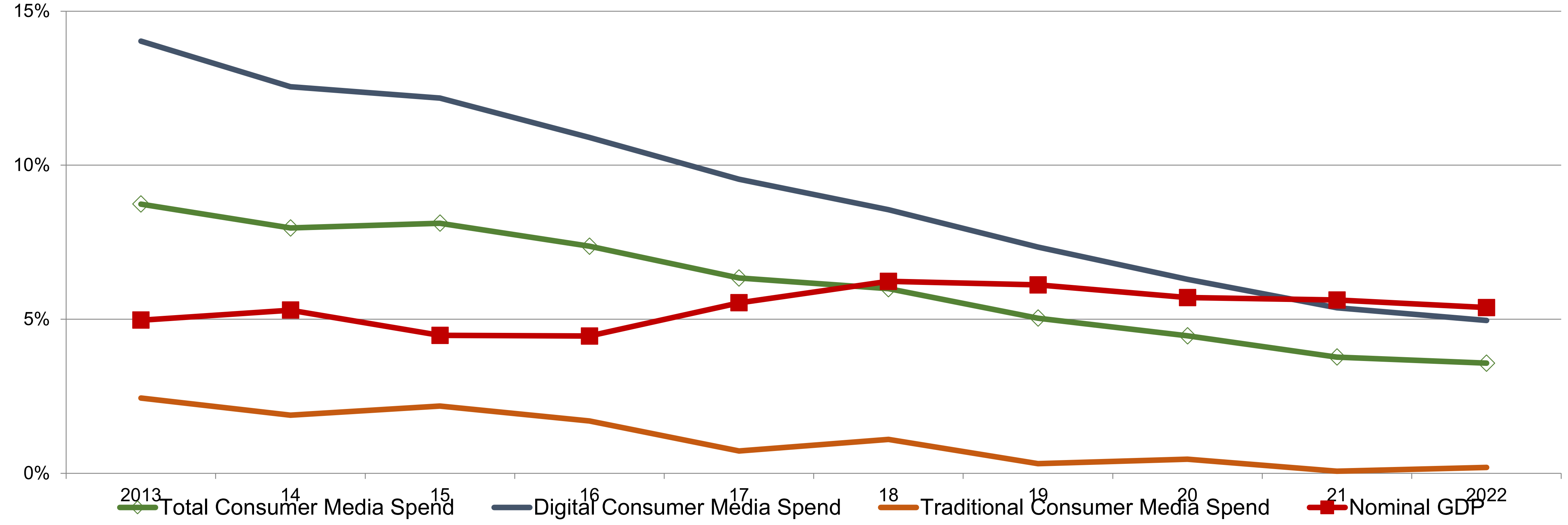
PQ Media's Global Per Capita Spending on Total Media Content & Technology & Growth, 2012-2222



Source: PQ Media

Global Consumer Total Spend on Media Will Underperform Nominal GDP Growth by 1-3 Pts; Digital Media Spend to Mirror Economy; Traditional Media Spend Underperforms by 4-6 Pts

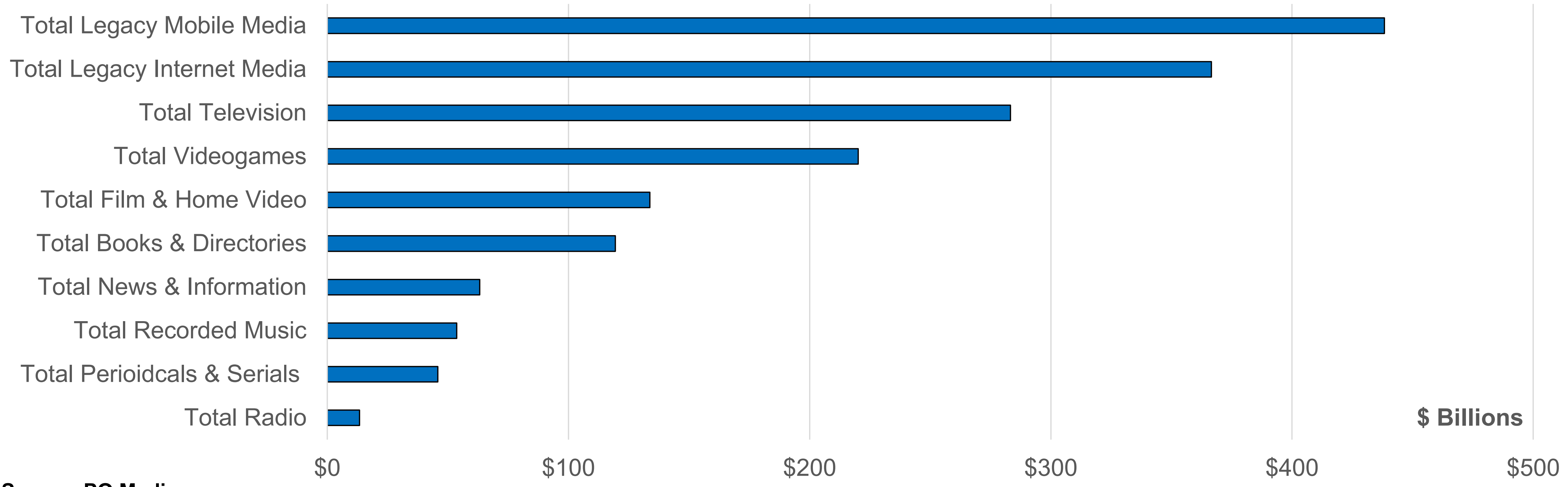
PQ Media's Advertising & Marketing Growth by Overall, Traditional, Digital & Alternative & Compared Against GDP 2013-2222



Source: PQ Media

Total Legacy Mobile Media Largest of the 10 Global Media Spend Silos at $438.28 Billion in 2017; Total Radio Smallest at $13.34 Billion

PQ Media's Consumer Spending on Media Content & Technology by Silos in 2017 (a)

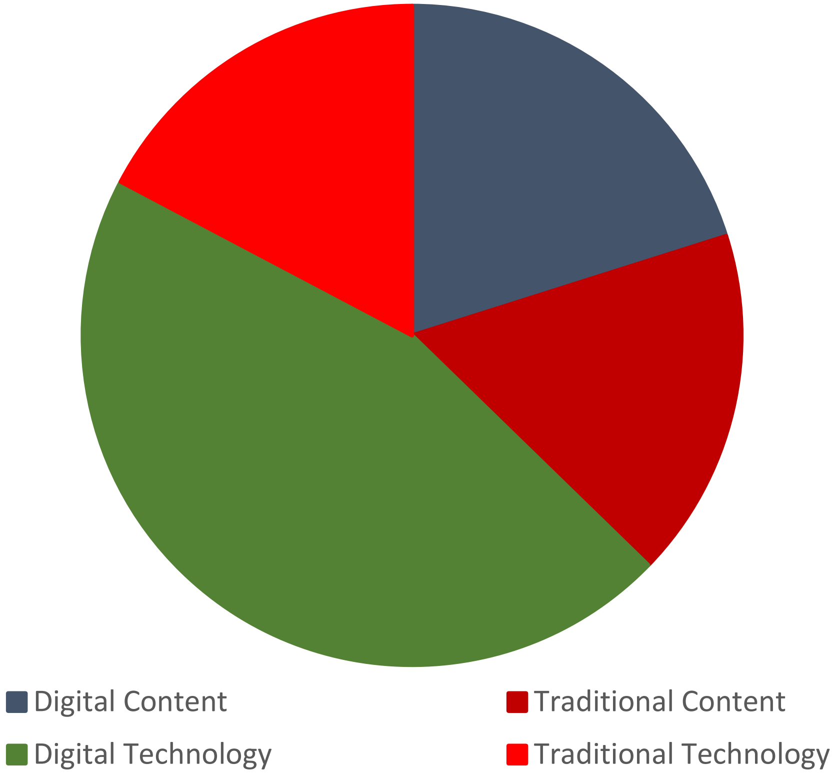


Source: PQ Media

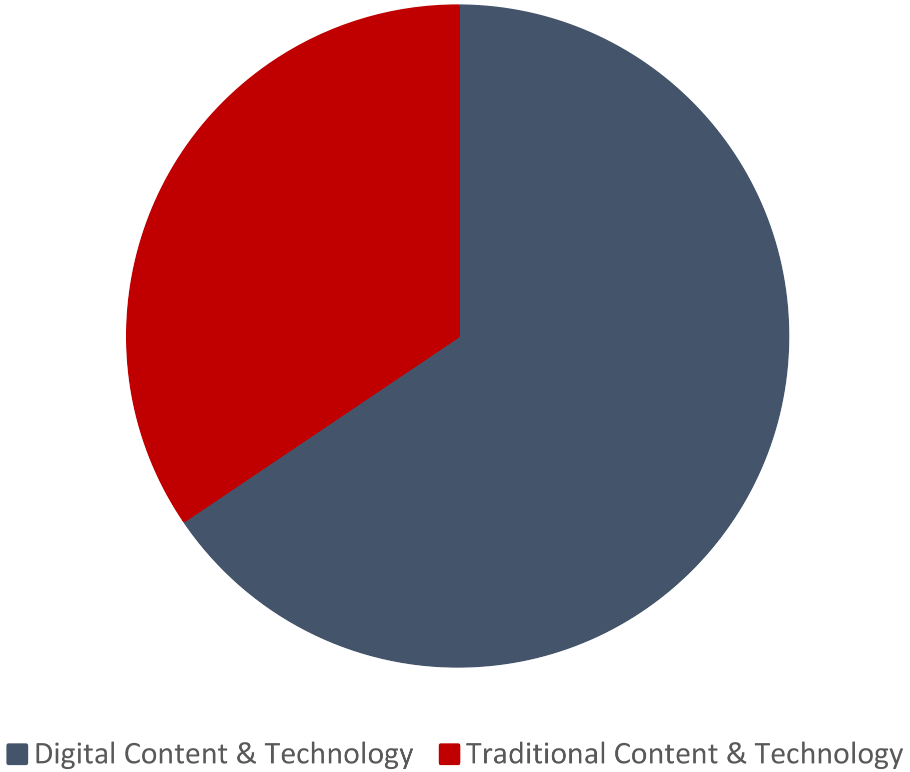
(a) Legacy Internet Media & Legacy Mobile Media are specific to consumer content & technology that are exclusively digital, such as e-Harmony subscriptions and smartphones Digital extensions of traditional media content & technology, such as online music downloads and subscriptions, are included in the traditional media silo (e.g., Recorded Music Additionally, all forms of the media platform, including pure-play digital companies are included in that platform, such as Huffington Post in News & Information

Content Represented 37.3% of Total Consumer Spending on Media in Global in 2017; Digital Media Represented 65.6% of Total Consumer Spend on Media in Content & Tech

PQ Media's Share of Consumer Media Spend by Sector in 2017



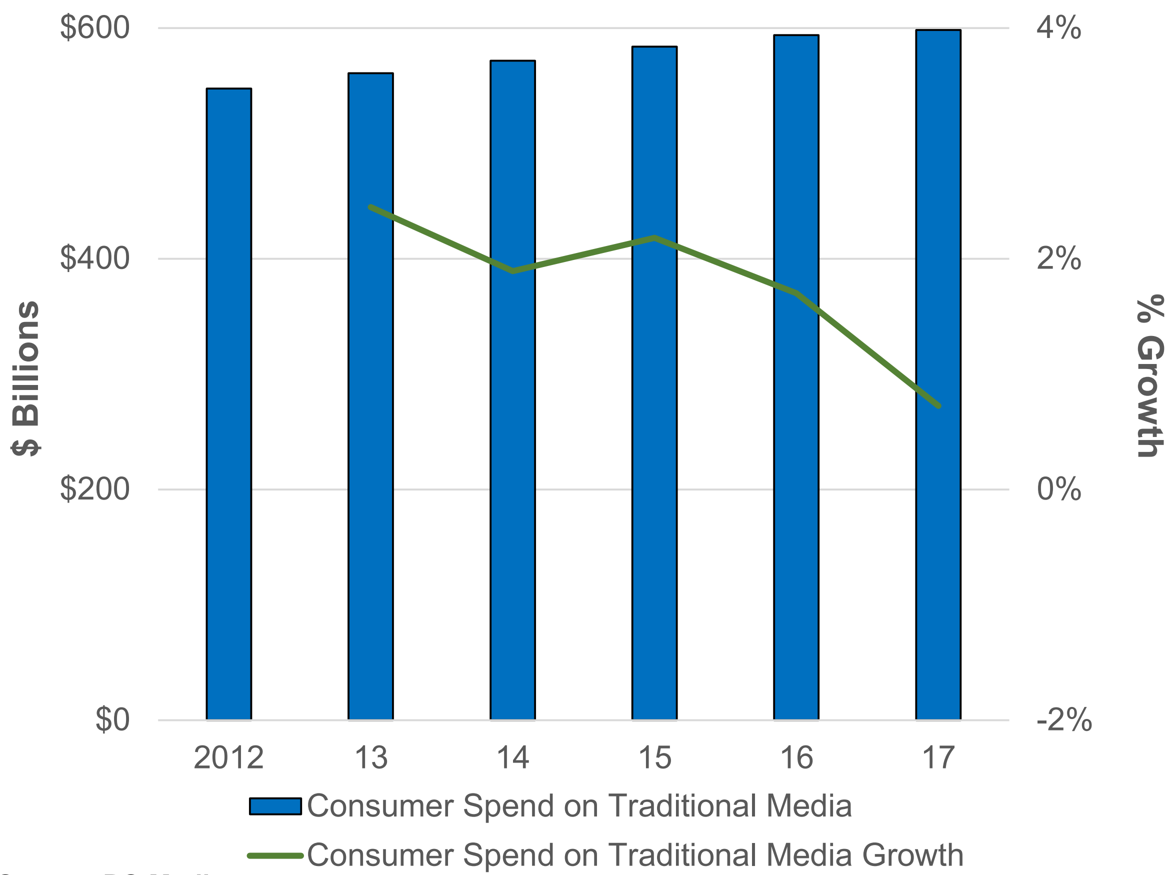
PQ Media's Share of Consumer Spend on Media by Digital vs. Traditional in 2017



Source: PQ Media

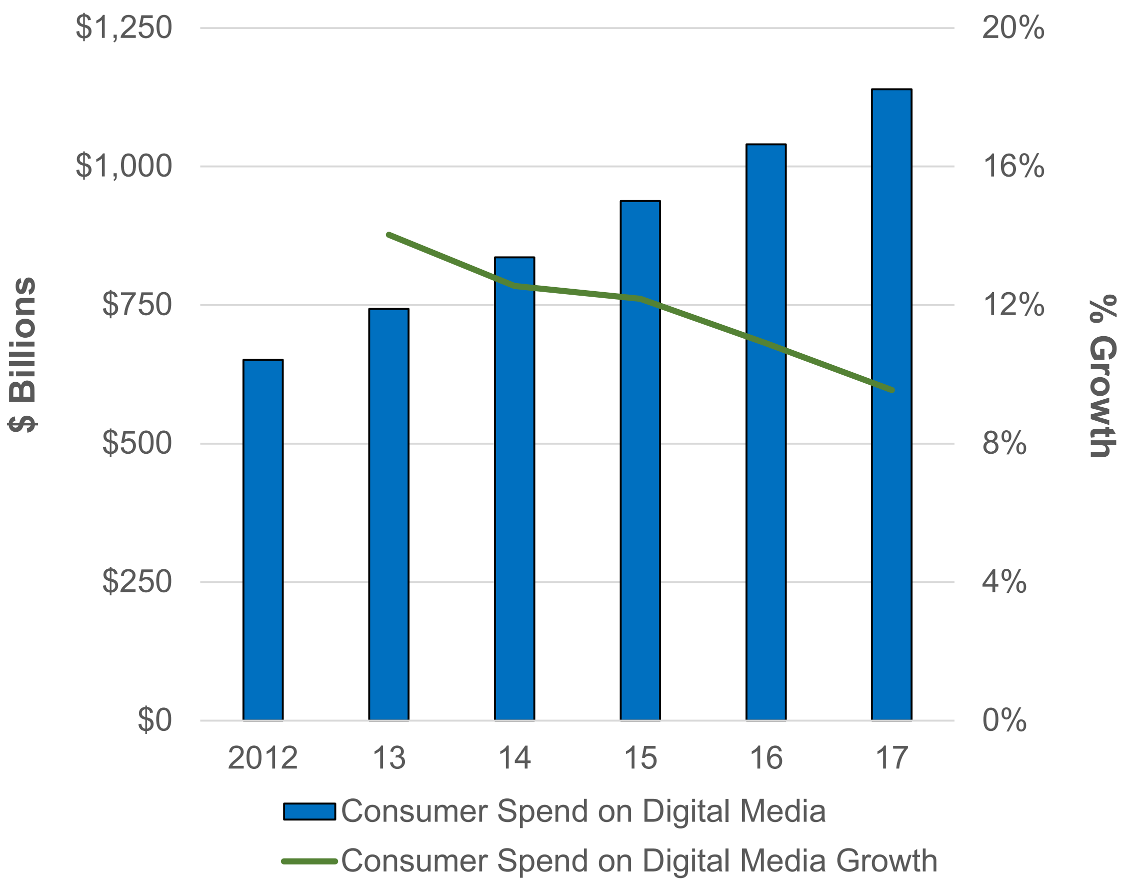
Global Consumer Spend on Traditional Media Content & Tech Rose 0.7% in 2017 to $598.18B; Global Consumer Spend on Digital Media Content & Tech Rose 9.5% in 2017 to $1.139T

PQ Media's Global Consumer Spend on Traditional Media, 2012-17



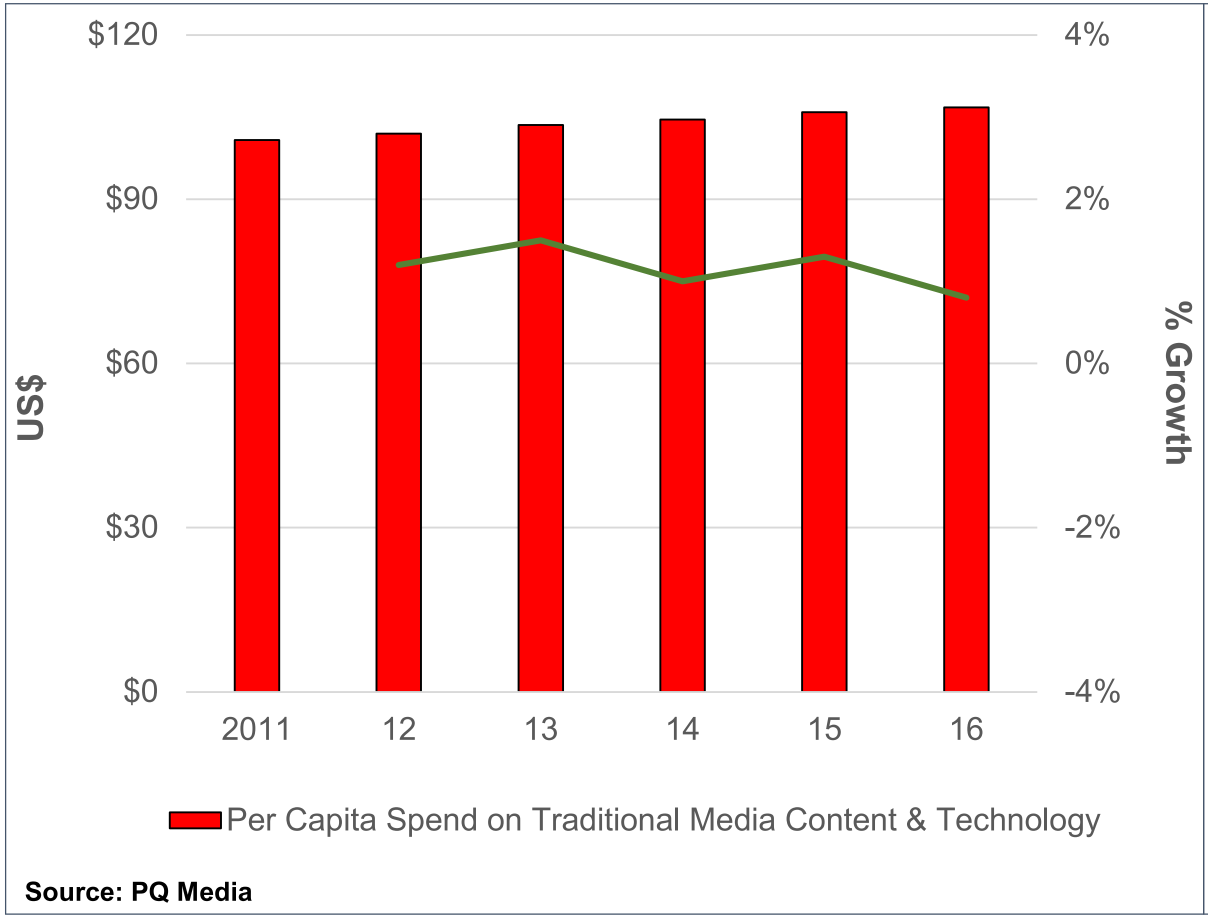
Source: PQ Media

PQ Media's Global Consumer Spend on Digital Media, 2012-17

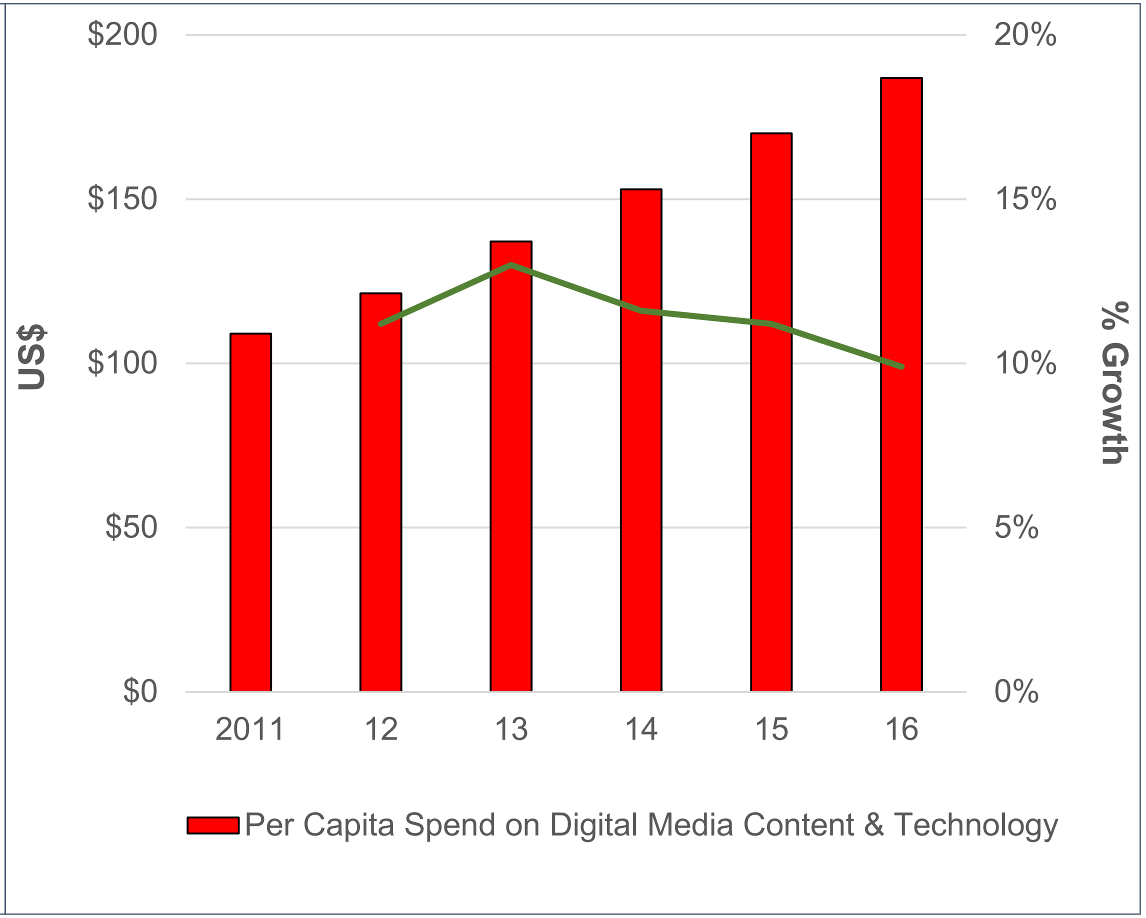


Global Per Capita Spend on Traditional Media Content & Tech Rose 0.8% in 2017 to $106.76; Global Per Capita Spend on Digital Media Content & Tech Rose 9.9% in 2017 to $196.91;

PQ Media's Global Per Capita Spend on Traditional Media, 2012-17



PQ Media's Global Per Capita Spend on Digital Media, 2012-17



US Consumers Spent Most on Media in 2017, Russia Fastest-Growing & Leads Digital Media Share; US Ranked 19th Fastest-Growing Market and 14th in Digital Share of Overall Media Spend

Total Consumer Spending on Media		
2017 Consumer Spend on Media	**2017 vs. 2016 Growth**	**2017 Share of Digital Media**
United States	Russia	Russia
China	India	China
Japan	South Africa	India
United Kingdom	China	Argentina
Germany	Brazil	South Korea

Source: PQ Media
US ranked 18th in growth and 14th in share of digital media

Global Consumer Spending on Media Content & Technology Forecast 2018-22

Segmentation & Definitions

Global Consumer Spending on Media Content & Technology: For the purposes of this report, digital media content include those media that were primarily developed within the past few decades and distributed almost exclusively in digital formats using devices that have had digital components almost since their development. Meanwhile, traditional media content include those media that were initially developed in an analog format, have been existence in some form for multiple decades/centuries, regardless that most media hardware devices are now available in digital formats.

Spending by consumers is specific to content developed for a mass audience and is accessed in real time simultaneously, archived for use at a later time for a fee, or is made available for purchase in mass quantities through brick-and-mortar and online retail outlets. It does not include spending on non-mass media items that are available through digital devices, more commonly known as e- and m-commerce, unless it is a media product, such as a books or recorded music. It also does not include electronics used primarily for personal reasons, such as single-shot cameras, video cameras, headphones and GPS, although there are instances these devices are used to develop media content, most often made available free of charge on social media sites.

Digital Media Content: Media content accessed through the internet, on wireless devices, and other digital devices, including videogame consoles, over-the-top (OTT) pay TV services, and satellite radio receivers.

Definitions & Segmentation

Digital Media (DM) Content Unit Purchases*:* Digital media content that are stand alone products requiring no additional purchases or commitments.

Digital Games, Apps & Microtransactions: Game content that is purchased in digital formats that are one-time purchases. This includes physical units of videogames, including console, handheld and PC titles, but excludes the multiplayer game extensions that require a subscription to play. It also includes games that are developed exclusively for play online and are available only for a short period of time, including the fees required to play in a game of chance. Mobile game apps purchased for single-play are also included in this digital spending segment category. It also includes the cost associated with microtransactions that used in subscription-based multiplayer games in which players can gain advantages over other players, such as a more powerful weapon.

Digital Archives of News & Information, Periodicals & Serials: Fees charged by publishers to access digital text articles and photographs that are no longer available free of charge and that have been archived for consumers to access at a later time.

Digital Media Music Tracks: Paid audio content available for download in digital formats, such as MP3, FLAC, WMA, AAC and WAV, and includes individual songs, albums and ringtones.

Digital Video Downloads: Video content that becomes available for fee that consumers can download onto their computers or wireless devices. They are standalone products, such as specific TV episodes or a featured-length film, which become available soon after being released in their original traditional media formats and before they are distributed through a digital or Pay TV subscription service and available on DVD through retail outlets.

e-Books: The digital format of long-form text-based content, such as a PDF or HTML version of a print book, digitized book made available exclusively online, or on-demand digital copies of books no longer available in print. It is published as a standalone product that is downloaded once onto a computer or wireless device which includes copyright provisions that preclude sharing the file with anyone, although the buyer might be allowed to read the file on multiple devices.

Miscellaneous Digital Content Downloads: Content that is often purchased on-demand to meet a specific consumer need, often with data and/or analysis, such as a credit report or automobile pricing analysis for a specific model. It also includes microtransactions that are not associated with digital or multiplayer games, such as virtual flowers available through dating sites.

Video-on-Demand (VOD): Video content purchased through OTT devices, such as Pay TV digital boxes, and videogame consoles, and is considered on-demand viewing because there is no pre-determined time to be viewed, which differentiates it from traditional media's pay-per-view (PPV) content which is viewed on a specific time and date. VOD spending includes only unit purchases, such as specific TV program episodes from premier cable nets, feature-length films, and archived sporting or entertainment events, such as wresting matches and concerts. VOD spending includes fees consumers pay to their Pay TV operators, downloading services or hospitality location (e.g., hotel).

Definitions & Segmentation

Digital Media Content Subscriptions*:* Digital media content that allows access to multiple products simultaneously, for a certain length of time, usually monthly or annually, and often includes a tiered pricing model that allows consumers to access additional content for a higher fee.

Digital Audio Services & Satellite Radio: Fees paid to services offering access to a specific number of digital music downloads in a specific time period; services that offer access to a plethora of digital radio stations and networks; and services that allow automobile owners to access satellite radio content in cars, in homes and on digital devices.

Digital News & Information, Periodicals & Serials Subscriptions: Fees paid to access real-time text-formatted content, often the digital versions of print newspapers, as well as access to short-form text articles, often the digital versions of print magazines. It does not include an estimate of the perceived value of a digital subscription if online and/or mobile access is included with the print subscription fees.

Digital Video Subscriptions: Fees paid to have unlimited access to digital feature films, TV programs, premium cable network on demand services, and recording capabilities using OTT Video devices, including digital video recorders.

e-Directories & Databases: Fees paid to access a list of vendors in specific verticals, such as doctors and contractors, as well as access to entertainment-related data and reviews that are updated annually, such as a statistical sports yearbook.

Miscellaneous Digital Content Subscriptions: Fees charged to access sites on a continuous basis that provide personal services, such as self-help, monitoring credit scores and online dating sites, as well as services that provide access to local information and deals, such as proximity services..

Multiplayer Games: Fees consumers pay to participate in games that are ongoing, and which a consumer can enter or exit at anytime without penalties, such as forfeiting points. It includes spending on massively multiplayer online games (MMOG), multiplayer role-playing games (MMORPG) and multiplayer mobile games (MMG). It includes the fees paid to access the online and mobile extensions of console and PC game titles, multiplayer games developed exclusively for online or wireless device use, and the fantasy sports leagues that are seasonal and often associated with sports media franchise, such as ESPN. It does not include one-time fees for microtransactions that provide a player with an advantage over competitors, which is included in the unit purchase spending category of digital games, apps & microtransactions.

Digital Media Technology: Media technology associated with the internet, wireless devices, videogames, and satellite radio. It does not include the perceived value of technology that is included with other products and services, such as satellite radio receivers included in the purchase of an automobile. It also does not include the purchases by businesses, government or education for technology that is labeled consumer electronics or services, such as internet access at work, computer tablets used by doctors in hospitals, or off-the-shelf software used for budgeting.

Digital Media Access*:* Fees paid for technology solutions that enable consumers to access a variety of digital media content, as well as other non-media digital services, like e-commerce. It does not include technology solutions to access a single type of content, such as digital video, which is included in digital media subscriptions.

Broadband Internet Access: Fees paid to access the internet using cable modems, digital subscriber lines (DSL), and Wi-Fi services, that provide the capability to download a greater quantity of data and information in a shorter period of time than using older telecommunication landline technology. Broadband access also includes the ability to share the signal with multiple devices using networking technology. It does not include any estimates for the perceived value of free Wi-Fi access provided by Pay TV operators as part of their services.

Dial-Up Access: Fees paid to access the internet using a dedicated landline phone number.

Wireless Data Subscriptions: Fees charged by telecommunications providers that allow consumers to download data and information developed specifically for wireless devices, as well as the ability to access the internet and corresponding services like e-mail. It also does not include fees paid by consumers for person-to-person calling and social media video teleconferencing, as these are not considered mass media.

Digital Media Devices*:* Devices that include a component that allows consumers to access digital media content and services. It does not include devices used primarily for person reasons, like cameras and headphones. It also does not include digital devices that were originally developed in analog formats to access traditional media content, but have become digital due to technology advancements, such as high-definition TV sets. It should be noted that PQM is aware of other consumer digital media devices that will eventually enter the market during the forecast period, such as Google Glass and SmartWatches, but we chose not to develop any data series because these devices are still being beta tested, with vague release dates and price points.

Console & Handheld Videogame Players: Devices purchased to play physical videogame titles, as well as any accessories that enhance the playing experience, such as wireless motion controllers, and which often have OTT capabilities to view downloaded video content.

Computer Laptops & Notebooks: Computers purchased that are mobile in nature and include an internal keyboard and mouse pad that are normally used to access internet digital media content and a DVD portal to play PC games. Computer laptops and notebooks differ from computer tablets (see below), in that they are often primarily purchased for non-media purposes, such as preparing word and excel files.

Computer Tablets: Computers purchased almost exclusively for accessing digital media content and which use a touch screen, rather than a keyboard and mouse pad, to access the content. It is possible to purchase accessories separately that provide keyboard and mouse pad functionality, as well as workflow software downloads to access and manipulate word and excel files.

Desktop Personal Computers (PCs): Non-mobile computers that are placed on floors or specially constructed workstations that include separate keyboards and mouse devices to view digital media content. PCs were developed for non-media purposes, such as developing word and excel files, but which expanded to access digital media content after the internet became widely available to the general public.

e-Readers: Wireless devices purchased primarily to access text-based digital media content, such as e-books, news & information, and periodicals & serials documents, and are preferred for this purpose because the screens offer better readability, particularly in bright sunlight. It lacks the functionality of computer tablets, and therefore is more difficult to use with interactive sites, such as multiplayer games, although some models offer the ability to view and download video and audio content and access other internet sites.

Feature Mobile Cell Phones: Also known as 2nd Generation (2G) phones. Consumers purchase these cell phones primarily for person-to-person calls, but choose them over basic mobile phones because they also provide the functionality to send/receive texts. Some feature phones also provide the limited ability to access the internet with more expensive pricing plans than smartphones as they are often based on the size of the downloads. It does not include an estimate of the perceived value of cells phones that are included free when consumers sign an annual contract with the telecommunications provider.

Digital Media Devices (cont.)

Home Network & Storage Hardware: Hardware purchased in order for multiple devices to access digital media content throughout the house via their broadband access plan. It also includes hardware that is purchased to expand the number of digital media content files that can be saved, or used to backup media content files that are kept on hard drives in case of a virus or hacking.

Smartphones: Also known as 3rd Generation (3G) and 4th Generation (4G) phones, and includes Blackberries. Mobile phones that are purchased specifically for the functionality to access digital media content specifically developed for wireless devices or through accessing the internet through the phones. Access to media content is through data plans (see wireless data subscriptions) that allow a certain amount of data to be downloaded monthly and are in addition to the person-to-person calling fees.

Digital Audio Components (MP3 Players, Digital Audio Receivers (DAR), Audio Bots & OEM Satellite Radio Receivers): Wireless devices that are purchased to listen to music, talk, or respond to demands. MP3 players often include a touch screen with playlists to chose the appropriate song or to play the entire list. Audio files are not directly downloaded onto MP3 players, but are transferred after being downloaded onto computers from online sites. DAR is an in-home receiver used to directly access digital audio services, such as digital audio broadcaster (DAB) (ex. NRK in Norway), subscription services (ex. Spotify) and/or online radio stations (ex. www.wfan.com/mobile). Audio bots are voice activated via a question (ex. what time is it?) or command, for which the device with attempt to provide a verbal answer or connect to an audio website (ex., music website for country music).. OEM (original equipment manufacturer) satellite radio receives are devices that are available for home use to access subscription-based satellite radio networks and models with access to the satellite radio networks that are installed in automobiles to replace AM/FM receivers that were originally installed in the automobile. It does not include the estimated value of satellite radio receivers that are already installed by the automobile manufacturers at the time the vehicle is purchased.

Digital Media Software & Services*:* Software and services that are purchased by consumers to provide additional functionality to digital media content, including the ability to edit, post, secure and store content files.

Digital Media Entertainment & Workflow Software: Software purchased for manipulation of digital media, such as video editing suites, as well as workflow products that are used to edit text, download e-database materials in excel formats, or prepare slides to incorporate into the content.

Digital Media Security Software: Software purchased to protect downloads stored on hard drives and networks from viruses and hacking.

Digital Media Storage Services: Online and mobile services that allow consumers to expand the allowable size of storage on devices by placing them in cloud computing repositories, allows consumers to share the files with others, and to use as an additional security measure to back up files in case digital media devices are hacked or impacted by viruses.

Definitions & Segmentation

Traditional Media Content & Technology: Spending by consumers on content and technology developed originally in analog formats. Spending figures include some content and technology that are now distributed in digital formats and received on digital electronic devices. Spending does not include any content that was repurposed into digital formats for viewing on digital devices referenced earlier.

Traditional Media Content Unit Purchases*:* Media content originally developed in analog formats that are purchased as standalone products. They are available at entertainment venues, through Pay TV services, or can be purchased through brick-and-mortar and online retailers.

Film & Home Video: Includes the purchase of tickets at movies theaters, as well as the cost to buy (a.k.a. sell-throughs), or rent DVD and VHS tapes of recently released full length feature films; made-for-DVD films; TV episode compilations from a specific year; or vertical titles, like exercise tapes and documentaries. Note: Although VHS tapes are no longer available for purchase, they are included here because they were still available for purchase or rental in a number of global markets during the historical period this report covers.

Pay-Per-View (PPV): Fees paid by consumers to their Pay TV provider for full-length feature films or special events, like sporting competitions and concerts, which are scheduled for viewing or recording on a specific day and time. It includes spending for PPV through Pay TV providers, in hospitality locations, or in sponsored movie theater events. It does not include consumers viewing PPV events in bars & restaurants which require a cover charge.

Physical Music Units: The purchase of recorded music in various physical formats, including compact discs (CDs), vinyl, cassettes, and music videos.

Print Books, Directories & Databases: The purchase of print editions of text or photo-based media content aimed at consumers, in hardcover or paperback, that are published as standalone products requiring no additional purchases, including franchise characters and series.

Single Copy News & Information, Periodicals & Serials: The purchase of specific editions of print products which are published daily or multiple times during the year on set schedule, such as weekly or monthly. It also includes special editions of specific print titles, such as a sports magazine that promotes expanded coverage after a team wins a title. The single copy issues are usually found at newsstands or retail outlets.

Definitions & Segmentation

Traditional Media Content Subscriptions*:* Media content originally developed in analog format that is purchased in quantity and over a set period of time.

Home Video Disc Subscriptions: Services that provide the rental of DVD discs on a monthly basis that are sent and returned by mail.

Print Book Clubs: Services that initially provide a discount to purchase multiple print titles simultaneously, but which require an additional set of titles to be purchased within a scheduled period of time to meet the contract obligations.

Print News & Information, Periodicals & Serials Subscriptions: Print products that are published multiple times and are purchased in their entirety over a given time period, such as quarterly or annually. The media content is sent by mail or delivered by a special carrier employed by the publisher.

Traditional Media Access*:* Fees paid monthly or annually to receive electronic media content.

Basic & Premium TV Subscriptions: Monthly fees paid to Pay TV operators to access a specific number of local broadcast TV signals, if applicable, and a set of primarily ad-supported broadcast and cable networks, including direct-response networks. It also includes additional fees that consumers can choose to pay to access additional ad-supported networks, as well as one or more premium cable networks that have no advertising.

Public Radio License Fees: Annual fees consumers pay to a government agency to help support radio programming costs for stations and networks located in that market. In many instances, the fees allow the stations and networks to offer programming with little or no advertising.

Public Television License Fees: Annual fees consumers pay to a government agency to help support television programming costs for broadcast TV stations and networks located in that market. In many instances, the fees allow the stations and networks to offer programming with little or no advertising.

Traditional Media Devices: Purchase of electronic devices that allow consumers to view media content that was originally developed in analog formats.

Digital Video Disc (DVD) Players: Analog and Blu-Ray hardware that is purchased to view conventional and Blu-Ray DVDs. Note: Although VHS tapes are included in traditional media content spending because they were available for purchase or rental during the historical period, VHS hardware is not included here because they were longer being manufactured and sold by retail outlets by 2007.

Home & OEM Car Audio Receivers & Speakers: Purchase of various devices that can be used to listen to physical music formats, terrestrial radio signals, and television audio through home theater setups, including stereo receivers, turntables, CD players, boom boxes, walkmans, and OEM in-car radio receivers purchased after the automobile was purchased. It does not include any car receivers included in the purchase of the automobile. Many audio devices in recent years have included a plug-in port so consumers can listen to digital audio tracks.

Television Sets: Purchase of various devices that enable a consumer to view terrestrial broadcast and cable TV programs. Devices include sets that incorporate high-definition (HD) technology, such as LCD, LED, plasma, 3-D, and 4-D screens, as well as older analog projector and flat-screen models that were available for purchase during the historical period this report covers.

Media Silos: For purposes of this report, PQ Media combined the consumer spend on digital and traditional content, when applicable, with the latter being extensions of a media platform, such as TV programs on TV sets, via OTT video, on PCs, laptops, smartphones and tablets, thus counted with Total Television spend. PQ Media further combined digital and traditional content access and devices that are associated with a particular media platform, such as pay TV subscriptions and TV sets included with Total Television. As result of the combination, spending by consumer on internet and mobile media were limited on to content and technology specifically developed for select digital devices, such as online dating site fees, paid mobile apps, broadband access, smartphones, and security software. These are considered legacy internet and mobile content, also know as pure-play. Furthermore, efforts were made to distinguish between digital content and technology specifically developed for the internet versus content and technology developed for wireless devices. For example, some digital media companies, such as Facebook, have go to great lengths to develop an internet interface and a separate mobile interface, so that when a consumer spends for content on these sites there is a clear distinction when it should be included with Legacy Internet Media versus Legacy Mobile Media, such as sports fantasy leagues played on PCs versus being played on tablets.

Media Silo Spending

Total Books & Directories: Combined consumer spending on print consumer books, textbooks, abstracts, and sports yearbooks, with spending on similar material on digital devices including PCs, laptops, smartphones, tablets, and e-Readers, and e-Books. e-Readers were the only technology included as it was developed specifically for books.

Total Film & Home Video: Combined consumer spending on attending feature-length films in theaters with purchasing, renting or downloading films on DVDs and OTT Video, such as paid VOD and PPV, videogame consoles, PCs, laptops, smartphones and tablets. DVDs were the only technology included as it was developed to watch films. It also includes any VOD or PPV fees paid by consumers to watch movies in hospitality locations, like hotels.

Total Legacy Internet Media: Combined consumer spending on paid content and services that are specific to the internet and viewed on PCs and laptops, such as online dating sites and the microtransactions to purchase virtual flowers, credit reports, and fantasy sports leagues not associated with a cable network. It also included content such broadband and dial-up access, primarily wired devices like PCs and laptops, and software and services developed for internet devices, such as enterprise workflow suites, such as Windows7, paid cloud storage, and security software. As stated earlier it does not include consumer spending on the digital extensions of traditional media silos, such as subscribing to ESPN’s “Inside” service.

Total Legacy Mobile Media: Combined consumer spending on paid content and services that are specific to mobile media and viewed on smartphones and tablets, such as paid mobile apps and video networks found exclusively on mobile phones through services like MobiTV. It also includes consumer spending on mobile data access plans, mobile phones and tablets, and any software and services developed for wireless devices, like Apples’ cloud service and ad-blockers. It does not include consumer spending on content developed by traditional media companies within another media silo and often repurposed for wireless devices, such as television video services or Netflix, which was started as a home video service.

Total Music: Combined consumer spending on recorded music on CDs, cassette and vinyl with downloading and streaming subscription services that allow them to listen to music on MP3 players, PCs, laptops, smartphones, feature phones, such as ring tones, and tablets. MP3 players are also included as well as a share of audio receivers.

Total News & Information: Combined consumer spending on print-based news and other information publications, such business newspapers, with spending on similar material on digital devices including PCs, laptops, smartphones, tablets, and e-Readers, including paid subscription services like that offered by *Business Insider* to access their reports.

Total Periodicals & Serials: Combined consumer spending on print-based publications purchased from newsstands, distributed via subscription and received in the mail, with purchasing the same material via digital devices including PCs, laptops, smartphones, tablets and e-readers, such as digital extension of popular magazines like *Consumer Reports.*

Media Silo Spending (cont.)

Total Radio: Combined consumer spending on satellite radio subscriptions, public license fees, and from paid subscriptions to online music services offering access to radio stations around the country, such as Spotify. It also includes the purchase of devices specific to listening to radio, such as OEM radio receivers for automobiles, a share of spending on home audio receivers and digital audio broadcasting (DAB) receivers.

Total Television: Combined consumer spending for paid downloads of TV program episodes and subscription services to view select network programming via PCs, laptops, tablets, smartphones and videogame consoles, such as Hulu, as well as SmartTV services like Amazon Prime Video with Pay TV subscription access services, such as basic cable networks, premium cable networks, DVRs, and paid video-on-demand and pay-per-view for sporting events and concerts. It also includes the purchase of HD and analog TV sets and public license fees.

Total Videogames: Combined consumer spending for videogame titles published for console, handheld and PC devices, including any fees for digital extensions, such as multi-player online games (MMOG) and microtransactions that provide players an advantage, with the fees to play pure-play online and mobile games, including hardcore games like *War of Witchcraft,* casual/social games, and mobile gaming apps. It also includes the cost of any hardware purchases, such as consoles and virtual headsets.

Common Acronyms & Terms Used in Report

CAGR: Compound annual growth rate, or the year-over-year growth over a specific period time, which for this report was a 5-year period.

Per Capita Spending: Total annual expenditures, in $US dollars, by the average consumer for digital and traditional media content & technology in a specific market, region or globally.

BRIC: Brazil, Russia, India and China, four of the fastest growing and largest emerging markets worldwide.

Penetration Saturation: The inflection point in the which the highest share of the population will purchase a technology product or service, such as smartphones and broadband access, and the remaining portion of population has no desire to own or use the technology product or service.

AMER: Americas; **APAC:** Asia Pacific; **EU:** Europe; **ME&A:** Middle East & Africa

RoAM: Rest of Americas; **RoAP:** Rest of Asia Pacific; **RoEU:** Rest of Europe

Global Consumer Spending on Media Content & Technology Forecast 2018-22

About PQ Media

About PQ Media and the Annual *PQ Media Global Media & Technology Forecast Series*

PQ Media is a leading provider of actionable competitive intelligence and strategic guidance to management teams of the world's top media, entertainment & technology organizations. PQ Media delivers intelligent data and analytics to high-level executives to empower them to make smarter, faster business decisions amid the transforming global media & technology ecosystem. Our well-respected team of industry analysts and proven econometric methodology drive the annual *PQ Media Global Media & Technology Series*, a three-report suite of exclusive market intelligence that helps drive client growth objectives with a laser focus on the media economy's key performance indicators: operating company revenues, consumer time spent with media, and consumer spending on media content & technology (see more info & links to free downloads below).

PQ Media's Global Media & Technology Forecast Series:

PQ Media applies its proven econometric methodology and multi-channel research to our annual KPI benchmark series to help executives in the global media, entertainment & technology industries gain a deeper understanding of the world's transforming media ecosystem. This three-report suite delivers the first holistic view of the collective global media economy, focusing on digital & traditional advertising, marketing & consumer media usage and spending and profiling the Top 20 Global Markets, including the U.S., which account for more than 85% of global media revenues and spending annually. Each report in the series provides comprehensive five-year historical tracking and five-year forecasts for one of the three abovementioned KPI's. Our industry, sector, market, platform, channel and generation definitions remain consistent across each report making it easy to quickly compare growth patterns, drivers and performance in each global region, domestic market and individual admedia & marcom landscape.

- Global Media & Technology Forecast Series 2017 (link to site license info for standalone reports & 3 -Report Special Enterprise Bundle License)
- Global Advertising & Marketing Revenue Forecast 2017-21
- Global Consumer Media Usage & Exposure Forecast 2017-21
- Global Consumer Spending on Media Content & Technology Forecast 2017-21

***Following are some of PQ Media's annual market research report series. For more info on site license options & free executive summary & data downloads, click: pqmedia.com/reports/**

- Global Branded Entertainment Marketing Forecast 2018
- Global Content Marketing Forecast 2017
- Global Out-of-Home Media Forecast 2017
- U.S. Digital Out-of-Home Media Forecast 2016
- U.S. Brand Activation Marketing Forecast 2016
- Global Branded Entertainment Marketing Forecast 2015
- Global Content Marketing Forecast 2015

- Global Media & Technology Forecast Series 2016
- Global Media & Technology Forecast Series 2015
- Global Media & Technology Forecast Series 2014
- Global Media & Technology Forecast Series 2013

- Brazil Media & Technology Outlook 2014
- China Media & Technology Outlook 2014
- Global Digital Out-of-Home Media Forecast 2014
- Global Consumer Exposure to Digital Out-of-Home Media Forecast 2014
- Top 100 Brands on Social Media Worldwide 2013
- U.S. Mobile & Social Media Forecast 2012-16
- U.S. Political Campaign Media Spending 2010

About PQ Media's Client's & Subscribers and Consulting Services

PQ Media's Clients & Subscribers

PQ Media has accurately predicted key trends, insights and outcomes that have influenced strategic plans, investment parameters and tactical approaches for some of the world's most respected media companies, media agencies, financial institutions, and research & consulting firms:

Media Companies
- Associated Press
- NBC Universal
- News Corp
- Time Warner
- Turner Broadcasting

Financial
- Bain Capital
- Credit Suisse
- Deutsche Bank
- GE Commercial Finance
- JP Morgan

Agencies
- Dentsu
- Havas Media
- Hill Holiday
- Kinetic
- Starcom Worldwide

Technology/Telecom
- AT&T
- Cisco Systems
- Google
- Microsoft
- Qualcomm

Research/Consulting
- Bain & Co.
- LEK Consulting
- McKinsey & Co.
- Nomura Research Institute
- Yano Research Institute

PQ Media's Consulting Services

Due to the global marketplace demand, we broadened and deepened our analysis of media through the lens of PQ Medianomics (see Methodology). The media industry has been expanding exponentially with more new channels being developed in the last 50 years compared with the first 5,000 years. Brands have more than 200 choices to distribute their messages compared with 50 in 1990, a fourfold increase. With the myriad of changes to the media ecosystem, key media stakeholders reach out to PQ Media for strategic intelligence to help in their decision-making process because of the unique data and trends analysis that we can offer. As a result, we developed a broader portfolio of custom consulting services to meet the growing needs of our clients. We have five types of consulting services:

- Actionable Strategic Intelligence Reports: PQM develops in-depth analysis of media industry trends, with multiple categories being analyzed or industry & segment briefs with drill-down data
- Perception Surveys: PQM develops, implements and analyzes results from a questionnaire we would prepare to ascertain how a specific end user perceives your company, brands and/or services
- Webinars & Presentations: PQM would prepare and present branded webinars and presentations that tie media industry data to your products and services
- Custom Phone Consults: PQM executives and industry thought leaders and we would provide our opinion in confidence on specific media platforms, channels, trends and/or companies.
- Licensing PQ Media Report: PQM prepares a specific report for you that would be available exclusively to a specific universe, such as clients or trade organization members

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Contact PQM & Follow Us

Success in today's transforming mediascape requires timely, actionable strategic intelligence. Let PQ Media help your organization make smarter, faster business decisions with a no obligation situation review or preliminary phone consult. Please contact Patrick Quinn at pquinn@pqmedia.com or Leo Kivijarv at lkivijarv@pqmedia.com or call 203.569.9449 today to prepare for the hybrid media future.

www.pqmedia.com (Sign up for PQM newsletter) linkedin.com/company/pq-media-llc twitter.com/pqmedia facebook.com/pqmedia

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Methodology

Research Methodology

PQ Media's proven research methodology and proprietary mapping system – PQ Medianomics™ – utilizes proprietary data collection techniques, algorithmic models and analytical approaches to track, analyze and forecast spending, consumption and trends in all major media, platforms and channels of the media and entertainment industries. PQ Media's system, driven by our SpendTrak™, UsageTrak™ and InfoTrak™ databases, as well as our exclusive Global Opinion Leader Panel™ (GOLP), layers the impact of key data and variables, including economic, demographic, behavioral, technological and regulatory.

In defining, structuring, sizing and forecasting global industries and markets, such as content marketing, branded entertainment and digital out-of-home media, PQ Media seeks input from our exclusive Global Opinion Leader Panel™, which includes several hundred executives at media and entertainment companies, financial institutions, consulting firms, media agencies and brands regarding various data and information driving key trends and growth in campaign media spending. We also examine thousands of public and private documents from more than 1,000 sources pertaining to regional and market-specific trends and data in content marketing, the advertising & marketing ecosystem; economic sectors & demographic profiles; and any other factors, such as technology penetration rates, that might affect the content marketing industry, overall advertising environment, the economy and consumer media usage behavior & spending patterns.

PQ Media's proven econometric methodology is set apart from other media research sources in a number of important ways. For example, PQ Media doesn't use standard rate card data and estimated impressions as the methodological foundation of our spending and growth algorithms. Our consistent, comprehensive and in-depth mapping of the entire media and entertainment landscape provides industry stakeholders with a complete picture of how the spending and usage patterns of consumers, businesses, brands and agencies are changing at an increasingly rapid pace, driven by technology innovation and emerging digital media.

Global Media & Technology Forecast Series 2018

[Global Advertising & Marketing Revenue Forecast 2017-21]

[Global Consumer Media Usage & Exposure Forecast 2017-21]

[Global Consumer Spend on Media & Tech Forecast 2017-21]

Top 20 Global Media Markets

*United States
*Argentina
*Australia
*Brazil
*Canada
*China
*France
*Germany
*India
*Italy
*Japan
*Mexico
*Netherlands
*Poland
*Russia
*South Africa
*South Korea
*Spain
*Taiwan
*United Kingdom

- Most credible, consistent & actionable media & tech intelligence covering 2012-22 period, with 2017 actuals, 2018 pacing, 2018-22 forecasts
- Only primary source delivering data & analyses tracking all media & technology platforms & channels worldwide
- Original industry definitions & segmentation, current market sizing & growth projections, key growth drivers & emerging challenges