



**DAT
CON**

DATA READINESS
CONDITION INDEX

Media and Entertainment: DATCON 2

An Industry That Must Centralize Its Data Management Practices

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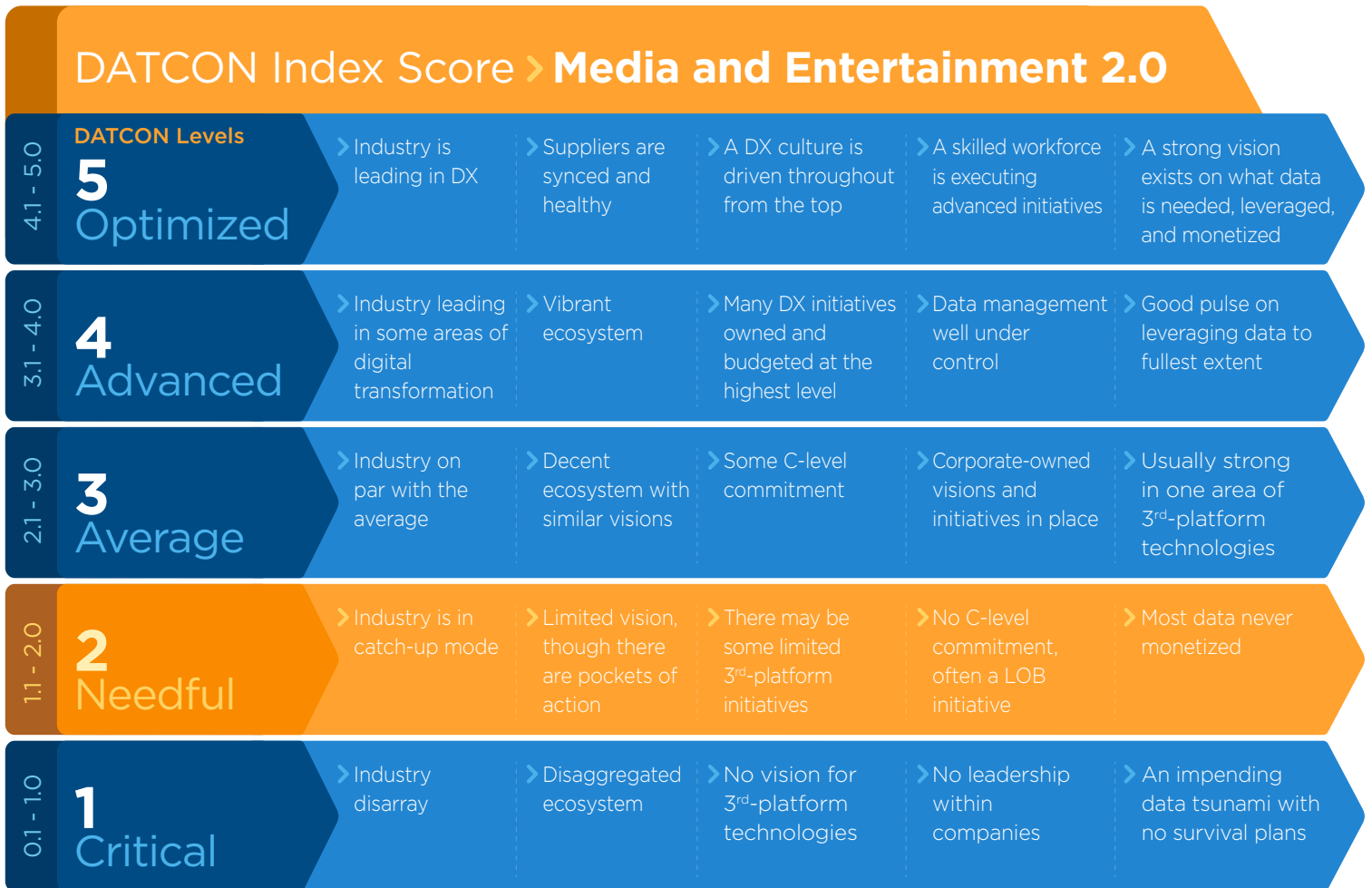


Executive Summary

> DATCON stands for **DATA** readiness **CON**dition (DATCON)

The goal of the DATCON index is to expose the strengths, opportunities, and data competency for a given industry, specifically as they relate to managing, analyzing, leveraging, and capitalizing on data. This project is designed to analyze various industries regarding their own Dataspheres, data management, usage, leadership, and monetization capabilities (see “Methodology” for more details).

Figure 1



Source: IDC's Data Age 2025 study, sponsored by Seagate

The media and entertainment industry is large and varied, with a wide range of companies that produce and distribute films, television programs and commercials, sports, streaming content, music, audio, newspapers, books, magazines, and video games. Additionally,

media and entertainment companies will increasingly produce and distribute augmented reality and virtual reality content. The industry has largely navigated digital disruption, yet media and entertainment companies still face the challenge of dealing

with increasingly competitive and fickle markets. Consumers have more ways than ever to consume content, driving the need to create, distribute, and manage data in smarter, more efficient ways than ever before. At the same time, they need to generate more revenue from capitalizing on new partnerships and content delivery opportunities.

The focus on revenue generation often results in IT budgets focused more on production technology than data management. Certainly, digitally-native large production and distribution companies such as Amazon, Netflix, and YouTube are at the cutting edge of

managing, securing, and distributing media and entertainment data. Yet, given the long history of the industry, many legacy media and entertainment companies find that their valuable data is spread across multiple locations, contractors, and even rogue equipment. The need to corral this data into centralized repositories for security is obvious; more importantly, if media and entertainment companies are going to be able to deliver (and monetize) the type of on-demand, dynamic, personalized content the future portends, then data consolidation is mandatory, and investment in data management, analytics, AI, and edge computing must accelerate.

From a DATCON perspective, the data competency of the media and entertainment industry overall is at DATCON 2, with a few highly competent companies operating at the leading edge of technology innovation and data management. Many companies, however, are playing catch-up (Figure 1).

The following are some key findings earning the media and entertainment Industry a DATCON score of 2.0:

➤ Digital disruption in the media and entertainment industry has led to rapid data growth. From 2010 to 2018, the media and entertainment Datasphere grew at a 43% compound annual growth rate

(CAGR). Going forward, the media and entertainment Datasphere is expected to grow relatively more slowly than other less digitally transformed industries, at a 2018–2025 25% CAGR.

➤ Extracting value from a digital library of media and entertainment assets requires technology to deliver the right content at the right time to the right audience — on any screen at any time. Big data and

analytics and the ability to harness social media are key competitive advantages for media and entertainment companies, but many are ill-prepared to deliver, let alone capitalize, on this Datasphere dynamic.

➤ Although there is solid support from top-level executives for technology innovation, budgets are constraining foundational elements of digital transformation for many industry participants. For example, 85% of media companies surveyed had a corporate vision for cloud computing; some companies have aggressive goals for cloud migration. Although 70% of companies expected to have budget available for cloud computing, less than 30% of cloud-computing budgets were fully funded, and 30% had no funding at all. This was a consistent theme across many of the media and entertainment companies: The vision and desire did not always align with the necessary funding.

“ We have a goal of consolidating 20 datacenters down to three, with a target to move 75% of the datacenter assets across our company to the cloud over the next three years. Today, we have around 25% of our storage in the cloud. ”

*CIO and SVP of Corporate IT,
Major Media Firm*

➤ IT investment by media and entertainment companies overall was the lowest of all industries analyzed in this study. The investment is often highly fragmented across an organization, making it difficult for IT departments to catch up with data management difficulties, let alone invest in

advanced architectures, edge computing, cloud, and other necessary technologies. Particularly bothersome for media and entertainment companies are the seemingly endless pockets of data that are difficult to consolidate.

“ There is a lot of data, especially as our marketing groups have digitized. A lot of that has been done by third parties, and there’s a lot of data we own, but it sits out with other people. A big part of trying to figure out that data environment ... is how we might bring back that data and store it. We may not even know what we need it for, but we need it stored in one place so that others, like data scientists, can have access.

CIO and SVP of Corporate IT, Major Media Firm

➤ Compared to other industries, the media and entertainment industry is less exposed to the growth of critical, hypercritical,

analytic, and real-time data. On the other hand, security of data is paramount and receives a high priority.

➤ Security around the media and entertainment Datasphere often is time-sensitive. For example, to unlock the full data value potential, security is at the highest level up through the release of a movie. Any leak of production footage let alone a complete asset has the potential to decimate initial revenue where companies

seek to pay for their investment and future revenue where companies seek to drive maximum profit. Security will need to be more dynamic as the augmentation of sports, the growth in electronic sports (esports), and the rise in socially created and driven content drive consumer habits.

➤ While some media companies have a solid understanding and ability to extract value from their data, many more media companies are limited in their understanding of data's value. Consider the following dynamics that have the potential to disrupt the value of media and entertainment data:

“ Anything a CPU touches has a deflationary impact (i.e., creating something virtually is cheaper than creating the real thing) ... eventually the actors and actresses ... the building out of sets ... all of a sudden instead of millions of dollars ... it's hundreds of thousands.

CIO and SVP of Corporate IT, Major Media Firm

“ Longer term, think if popular game show hosts like Pat Sajak and Vanna White could be digitally created and forever young and speak Spanish and Russian ... you would just have to license the avatar ... that would really change the value of data quite a bit.

CIO and SVP of Corporate IT, Major Media Firm

Chapter 1

Media and Entertainment Survey Data

The media and entertainment industry

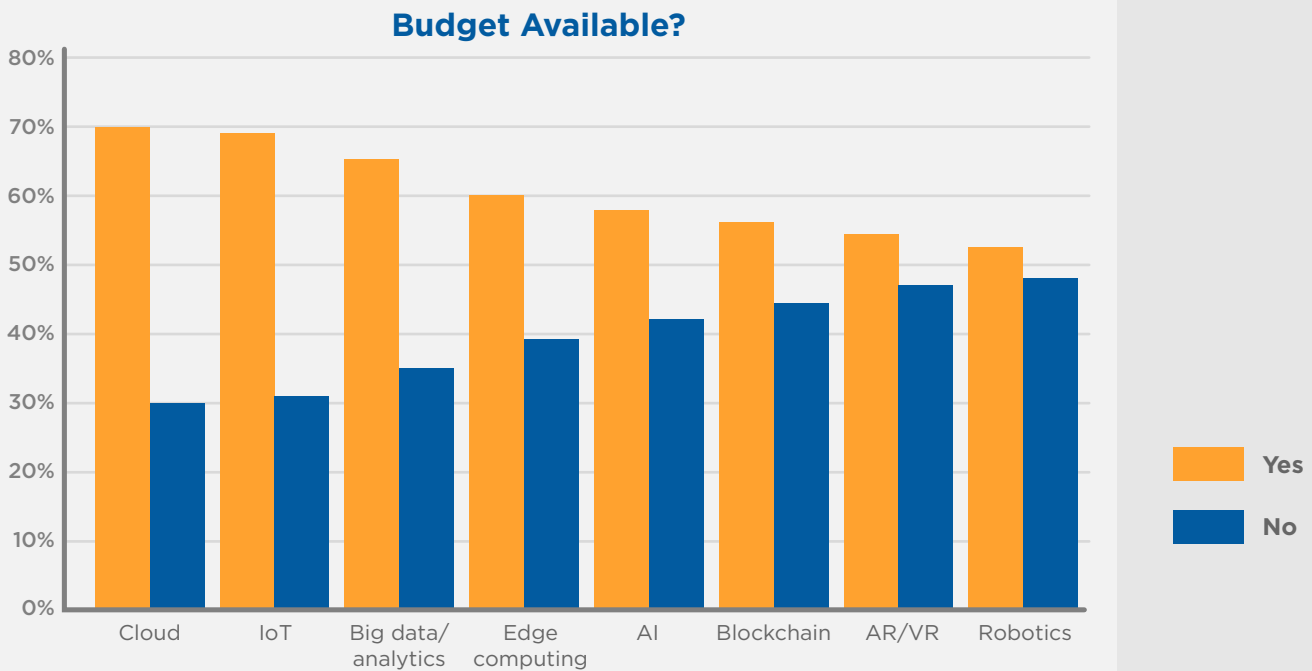
has a critical need to seize opportunities to consolidate and monetize libraries of digital content, and it is a task that is beyond the current capabilities of many data center managers and CIOs. Of the 275 media and entertainment data center managers and CIOs surveyed, 41% indicated there were plans to expand or significantly expand use of the cloud. However, with decentralized budgets and large ecosystems of content-producing suppliers, this is simply a monumental task. Of the same individuals surveyed, 42% indicated they had difficulty in predicting and managing the growth of data they are experiencing (Figure 2).



Of the 275 media and entertainment data center managers and CIOs surveyed, 41% indicated there were plans to expand or significantly expand use of the cloud.

The top three investment priorities for the media and entertainment companies surveyed were cloud, IoT, and big data and analytics. Blockchain, augmented reality/virtual reality (AR/VR), and robotics were the bottom three priorities (Figure 3).

Figure 3 - Media and entertainment leading and lagging investment priorities



Source: IDC's Data Age 2025 study, sponsored by Seagate

Getting control of digital media assets by moving them to the cloud is an important first step for many media and entertainment companies. Unsurprisingly, IT spending investment in the cloud is listed as the number-one investment priority for the media and entertainment industry. Cloud investment is a necessary first step if companies are going to have responsive, agile infrastructures that can analyze real-time data feeds and respond with dynamically created, personalized content in AR/VR environments.

Once digital assets have been migrated and aggregated in the cloud, then media and entertainment companies must invest more in analytics, blockchain, and AR/VR.

Digital rights management (DRM) and anti-pirating technologies can be enhanced effectively by integrating new blockchain strategies that can track the authenticity of media throughout its entire life. New augmented and virtual realities are guaranteed to be a part of the media and entertainment future, whether an augmented roller coaster experience or a movie enhanced within a virtual environment. It is, however, easier said than done.

Creating a virtual anything requires a lot of data analytics and intelligence if it is to be believable. Intersecting it with consumers' preferred consumption habits at any given time also requires a special skill set among workers (data scientists) who must figure out not only what data is necessary, but also where and how it should be stored.

Our physical reality is fraught with imperfections, inconsistencies, and randomness; yet, we see it all with human eyes that perceive near-perfect resolution (or at least interpreted that way by our brains). As our physical environments change, we react and respond based upon personal inclinations, preferences, and fears. Recreating a digitized and virtual replica that transports a person into a new and believable alternative reality is very difficult.

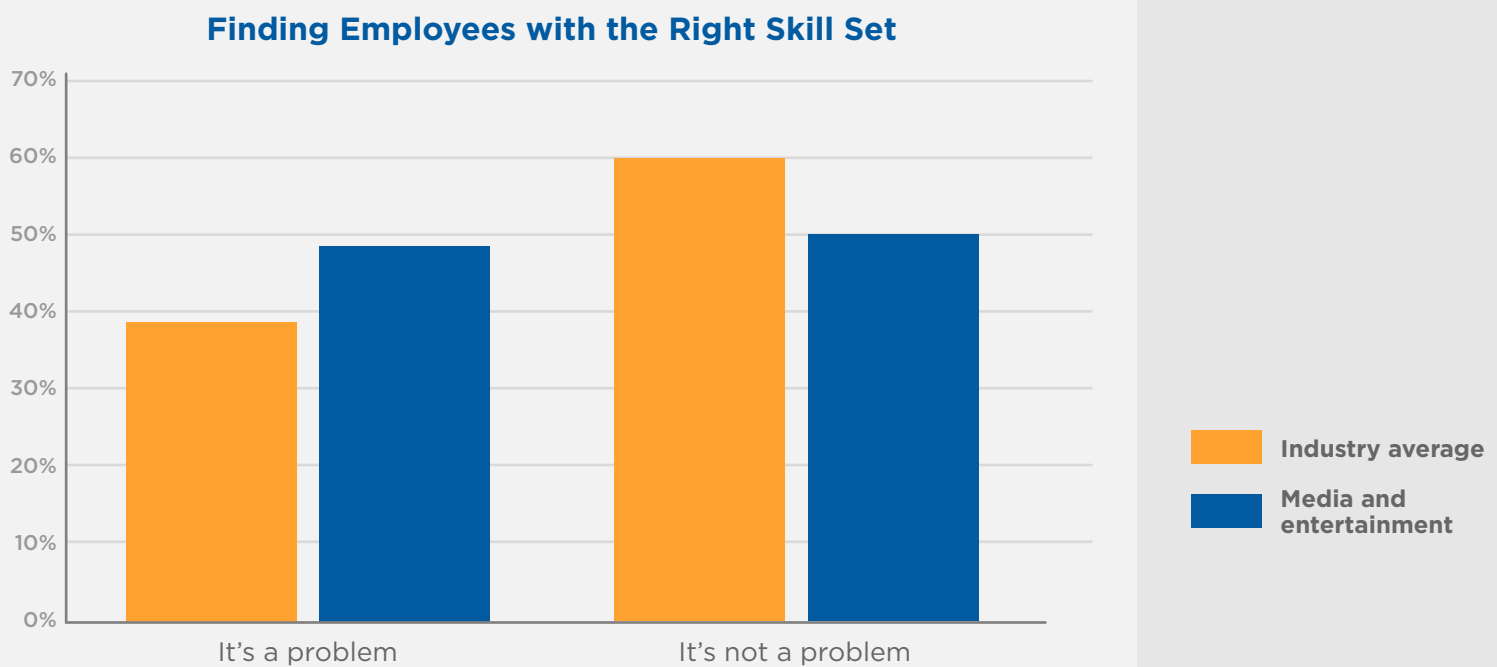
Computers are designed to produce predictable results with no flaws or inconsistencies, contrary to our real world; often, they have scenarios or decision paths that limit what a user may do in a virtualized environment, thereby hindering the sense of a believable alternate reality. Also interfering with this task is the bulk and imperfect resolution of today's VR headsets. In other words, a believable virtual reality is beyond reach today — but is destined to exist in the future.

If media and entertainment companies are to succeed with future VR initiatives, they must invest in capturing more data that will help define infinite decision paths for VR users; edge computing that will allow content to change based on user responses and biometrics; and centralized data management tools to drive data analytics and infrastructure efficiencies.

Investment in data management has lagged investment in media production, but this must change. The importance of media production is indisputable, given that is where data intersects with the end customers. It exposes a gap, however, in companies having the right skill set to improve, let alone excel, at data management.

Media and entertainment companies scored the lowest in hiring employees with the necessary skill set (Figure 4).

Figure 4 - Employee skills



Source: IDC's Data Age 2025 study, sponsored by Seagate

As in other industries, this creates a significant opportunity for consultants and service companies to provide strategic support and direction to help media and entertainment companies get their data management houses in order.

Given the dispersed nature of the rich data assets, the media and entertainment industry is significantly challenged in securing the data that requires protection. Forty-three percent of companies surveyed were challenged in understanding what data required protection, as well as protecting it (Figure 5).

Figure 5 - Securing data



Source: IDC's Data Age 2025 study, sponsored by Seagate

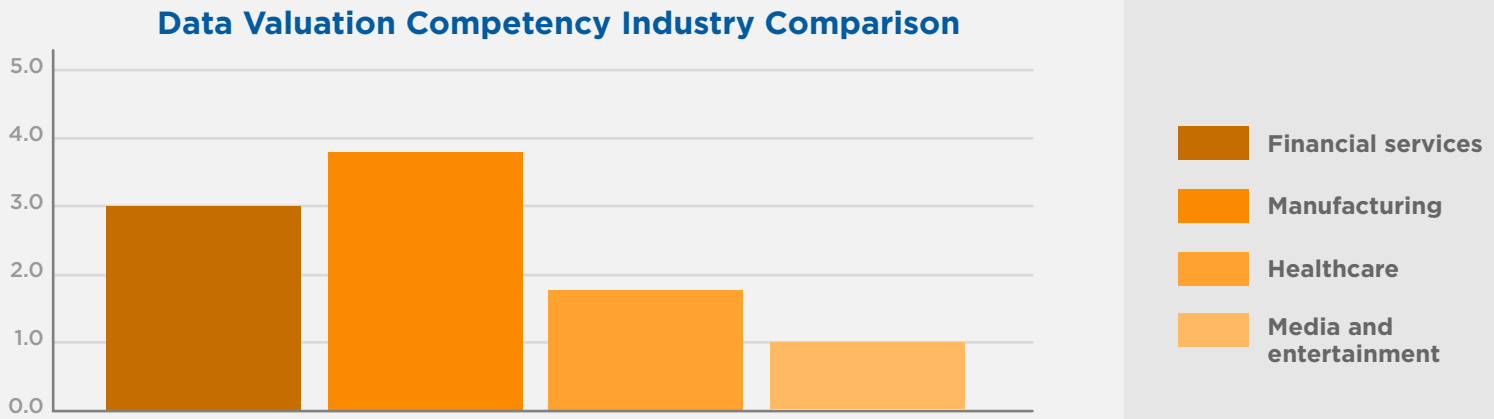
There is perhaps no other industry that creates as much data for the purpose of consumption, especially for entertainment purposes. Tied to this entertainment, however, is the all-important advertising dollar, which exacerbates the need for created content to be highly consumable ... over and over again.

Furthermore, how does one value the data necessary to create virtual actors/actresses and storylines that cater to personal preferences and draw viewership in the future? It is the

future, but it is an uncharted future where the value of this data is hard to quantify.

One of the six DATCON assessment scores is related to the ability to understand the value of and extract value from the data created and stored. Given the difficulties stated above, it is no surprise that the media and entertainment industry scored the lowest compared to other industries in terms of its competency in valuing data (Figure 6).

Figure 6 - Valuing data

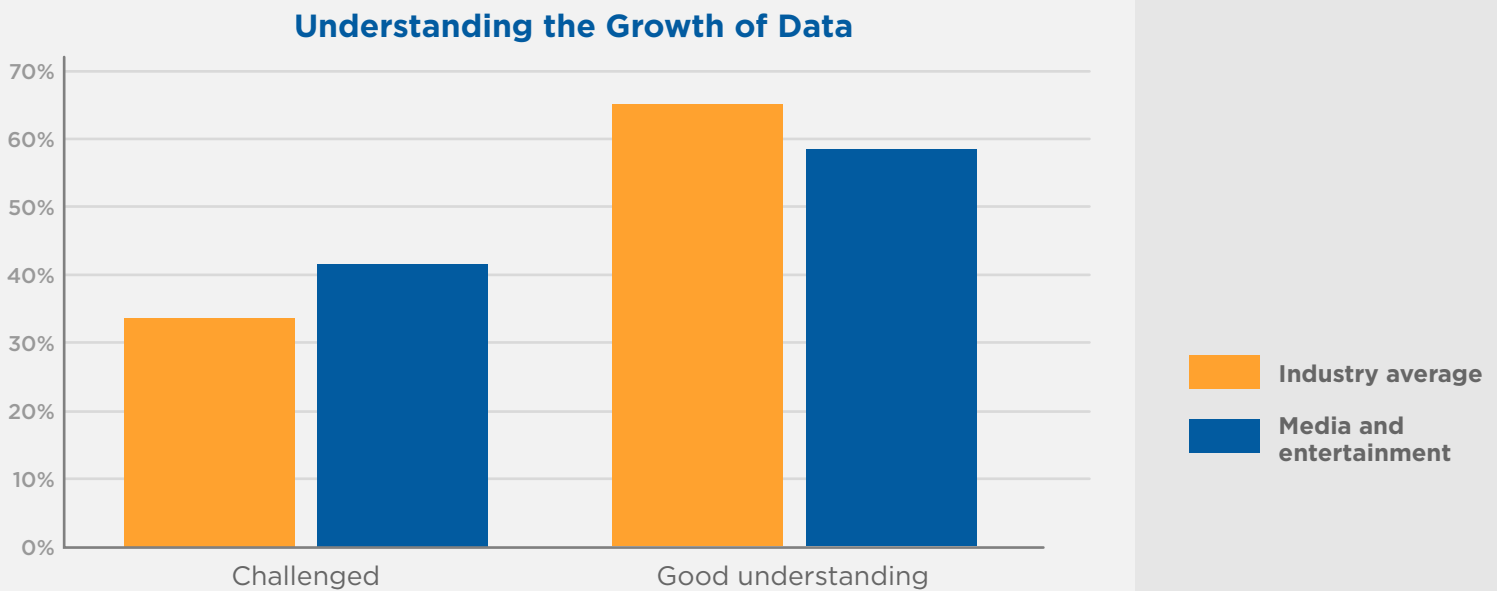


Source: IDC's Data Age 2025 study, sponsored by Seagate

The final area in which media and entertainment companies surveyed said they were significantly challenged was in predicting and managing the growth of their own Datasphere. Roughly 42% of media and

entertainment respondents indicated they lacked a solid understanding regarding the impending data growth headed their way (Figure 7).

Figure 7 - Managing data



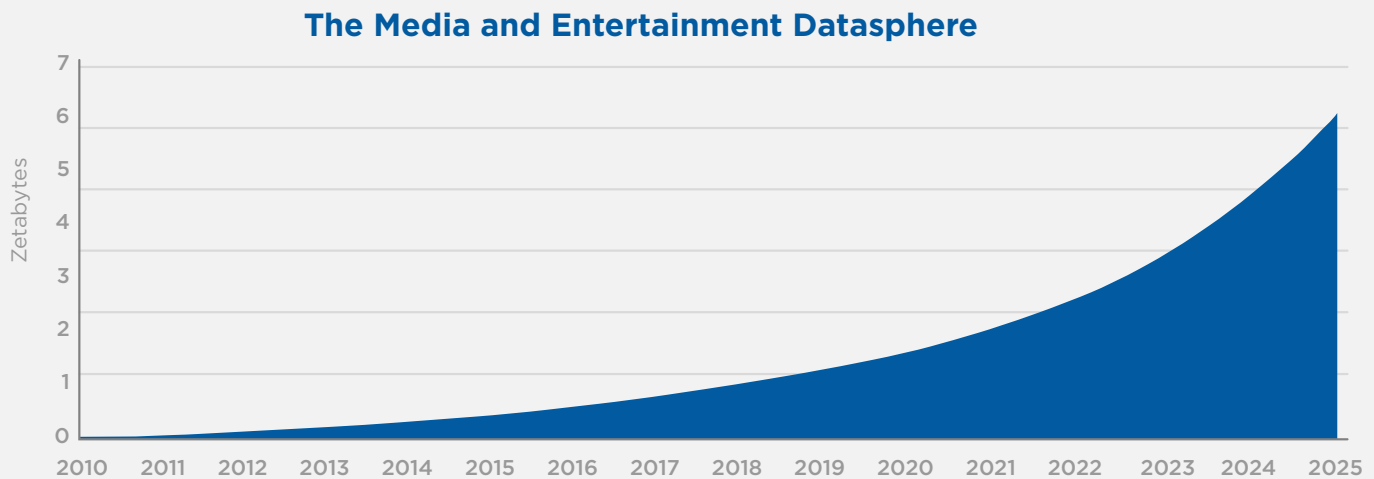
Source: IDC's Data Age 2025 study, sponsored by Seagate

Chapter 2

Revelations in the Media and Entertainment Datasphere

The media and entertainment Datasphere is the slowest-growing industry Datasphere that IDC evaluated, including the growth of critical and hypercritical (life-dependent) data (Figure 8).

Figure 8 - Data growth in the media and entertainment industry

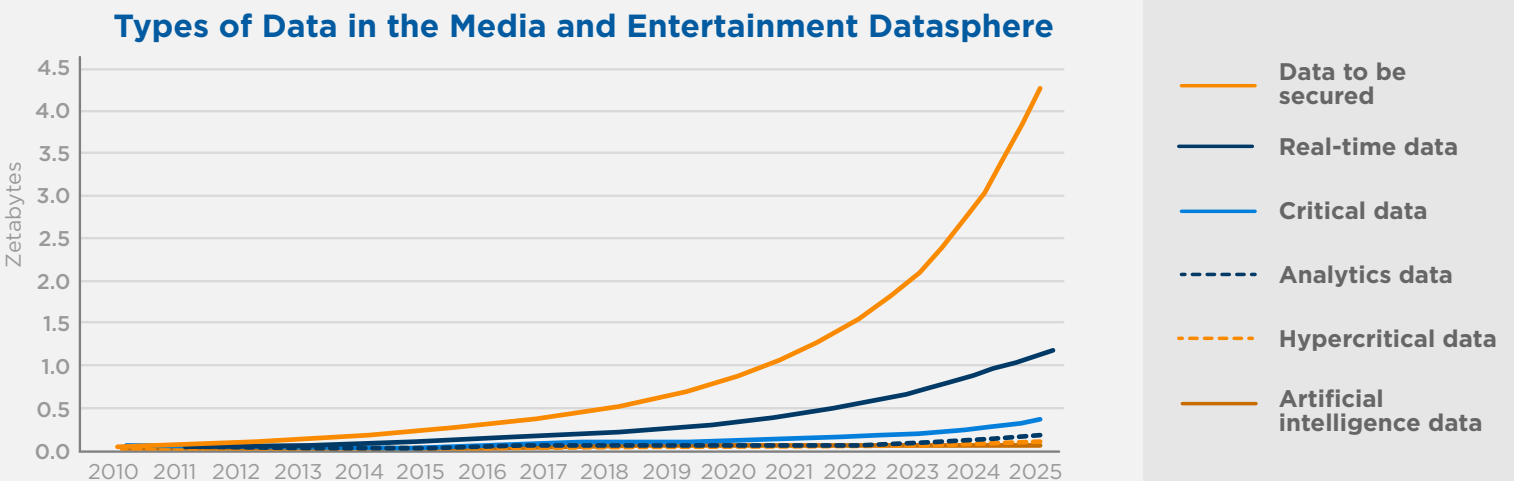


Source: IDC's Data Age 2025 study, sponsored by Seagate

In addition to the overall slow growth of this Datasphere, the types of data that typically elevate the need for proper data management are slow-growing – outside of security.

Figure 9 illustrates the growth trajectories of various data types that are part of the media and entertainment Datasphere.

Figure 9 - Critical data growth trends in the media and entertainment industry



Source: IDC's Data Age 2025 study, sponsored by Seagate

Of course, not all data grows at the same rate. The table below provides further insight into the characteristics of the data in Figure 9.

	2018–2025 CAGR	% of 2018 Media and Entertainment Datasphere	% of 2025 Media and Entertainment Datasphere
Data to be secured	29%	52%	65%
Real-Time data	33%	12%	18%
Critical data	33%	3%	5%
Analytics data	49%	1%	3%
Hypercritical data	48%	0%	0%
Artificial intelligence data	62%	0%	0%

Source: IDC's Data Age 2025 study, sponsored by Seagate

Personalized and targeted entertainment experiences.

The media and entertainment industry already provides consumers with countless options for entertainment content. The question is: How do media and entertainment companies make consumers aware of the vast libraries of content they have available? Increasingly, companies are offering personalized content recommendations that are targeted to consumers' interests. For example, Netflix is acquiring data from users to make personalized content recommendations. Typical metrics, such as what content was viewed and when, are now being supplemented by more granular elements such as when "fast forwarding" takes place. These granular elements add depth and richness to the datasets used for content recommendations by including nuances that are user-specific rather than a simply binary notion of whether a piece of content was viewed.

Data analytics capabilities give Netflix the ability to determine how content recommendations are presented to individual users. The content may be the same, but the images, talent, or story elements may be emphasized or presented in different ways based on personal preferences and viewing history. Through this attention to presentation detail, Netflix can build better content-to-user connections that increase the value of the recommendations. For example, by leveraging advanced data analytics, Netflix introduced the series *House of Cards* with a high degree of confidence that it would be a hit. Data actually drove the artistic direction of the show.

Because of better data utilization and actionable insights, media and entertainment companies are already driving a more personalized consumer experience with

improved content creation, ad targeting, and scheduling. Companies also have found new revenue sources. For example, in the U.S., the Weather Channel implemented a proprietary ad targeting platform (WEATHERfx) that it could license to other networks. It allows the insertion of weather intelligence dynamically into digital marketing platforms, allowing marketers to

Social connections.

Social media has given rise to influencers and producers who increasingly pose competition for traditional media and entertainment companies. These individuals have attracted significant online audiences around the globe for their animated commentaries or game-playing prowess via online channels such as Twitch (owned by Amazon) and YouTube (owned by Google). Many of these influencers have gained a modicum of celebrity and play a critical role in shaping the value of data; more importantly, they compete for screen time and associated advertising dollars. For example, an estimated 50% of the 15 million Twitch users spend more than 20 hours a week watching content on Twitch. How do legacy media and entertainment companies compete against this?

At the same time, influencers can be virtual. In 2018, fashion brands such as LVMH, Prada, and

better anticipate and affect consumer decision-making. As an example, customer experience could be improved by providing complementary weather insight to a customer who is planning a trip on a travel website or providing real-time weather warnings through a navigation application.

Chanel experimented with computer-generated virtual influencer personas on YouTube, Instagram, and Snapchat in particular. While these appear to be early-stage initiatives, ever-advancing graphics, screen resolution, immersive AR/VR experiences, personalized experience targeting, and artificial intelligence techniques create conditions for ongoing development and improvement. This adds a new dimension for data to transform the media and entertainment industry from content and IT infrastructure perspectives.

The above examples highlight the importance for the media and entertainment industry to improve its digital transformation and structural DATCON scores if it is going to compete successfully for future viewers and advertising dollars. There are many opportunities for the media and entertainment industry to improve.



Social media has given rise to influencers and producers who increasingly pose competition for traditional media and entertainment companies.

Chapter 3

Recommendations for the Media and Entertainment Industry

The media and entertainment industry is at DATCON 2. Many of its well-established companies must invest in their data infrastructures to compete successfully against digitally-native giants such as Amazon, Netflix, Baidu iQiyi, Youku Tudou, Maxdome (in Germany), and Hotstar (in India).

Media and entertainment companies are facing increasingly competitive and fickle markets. Consumers have more ways than ever to consume content, driving the need for organizations to create, distribute, and manage data in smarter, more efficient ways than ever before. At the same time, companies need to generate more revenue by capitalizing on new partnerships and content-delivery opportunities.

➤ **Significantly upgrade the data-management infrastructure.**

Companies should identify opportunities to create, distribute, and manage data more efficiently to improve cash flow from current operations. Many media and entertainment companies expressed a strong desire to

leverage the cloud more aggressively. This is a first step to consolidating data, improving management efficiencies, and increasing its DATCON structural score.

➤ **Operationalize outcomes-based planning.**

Set targets to grow consumer engagement and loyalty against new data-driven key performance indicators (KPIs) that will help bring context to the value of data. Advertising dollars follow viewership. The sector in large part has relied on content distributors to manage delivery and customer experience. Look no further than cable TV for evidence: Media and entertainment produce great content that is distributed over legacy

infrastructure to somewhat inadequate client devices (set-top boxes). In this case, data collection about consumer viewing habits lies with the distributors, out of the hands of the content creators. Media and entertainment companies must take more ownership of their customer relationships so that they can manage, anticipate, and monetize the engagements and experiences.

➤ **Improve the utilization of analytics and AI to optimize performance and determine how best to market content to optimize its consumption.**

Media and entertainment companies should not simply focus on keeping up with the competition in terms of content production. Rather, the competitive environment dictates that user experiences continuously improve, and companies must use innovative ways of harnessing data as a means to achieve this. Market leaders, such as Netflix, set an example that others can follow as they work to improve management of their

Dataspheres. Fine-grained data utilization is key, but so too is data collection. Thinking creatively to anticipate new data elements to capture drives a growing dataset on which to enhance the user experience. Key components of this shift include the need to process more sources of data in real time, protecting data security and privacy, and making data actionable.

➤ **Weave a plan for security and privacy throughout all data and analytics initiatives.**

Beyond traditional security practices surrounding content, media and entertainment companies must integrate new security and privacy technologies

around newly acquired consumer data. These must be leveraged to characterize and profile customer viewing preferences and behaviors.



Chapter 4

Methodology

The DATCON index is an indication of how well a particular industry is prepared to manage and capitalize on the data that is forecast to grow within that industry. Any given company within a particular industry may be above or below the calculated DATCON index for the industry.

The DATCON index is a calculated score that is synthesized across six vectors and numerous metrics that emerge from surveys, research, industry experts, and other sophisticated modeling techniques.

The six assessment vectors are:

1. Industry Datasphere

This vector score is derived by analyzing the growth trajectory of multiple types of data within IDC's Global Datasphere calculation for each industry. These types include critical and hypercritical data, data that requires various levels of security, data that is leveraged in big data

analytics, data that is leveraged in artificial intelligence applications, and real-time data.

The Datasphere is the amount of new data that is captured, created, replicated, and consumed in any given year.

2. Digital transformation and the third platform

This vector score is derived by assessing an industry's activity, initiatives, corporate sponsorships, investment, and other insights relative to a set of IDC's third-platform and innovation accelerators. These innovations include the IoT, blockchain, big data, artificial intelligence, and digital transformation progress.

Digital transformation is the application of third-platform and related technologies to fundamentally improve all aspects of society. For business, this means transforming decision-making with technology.

3. Structural score

This vector score combines various metrics related to an industry's structure (e.g., investment in edge IT,

IT spend as a percent of an industry's gross output, and leader/laggard condition).

4. C-level buy-in

This vector scores the involvement of a company's C-suite in sponsoring, leading, and budgeting for the various technologies across multiple metrics in the DATCON construct.

5. Data valuation competency

This vector assesses the skills necessary to understand the value of data, as well as to monetize it or treat it as an asset.

6. Leadership (self-scored)

This vector assesses a company's perspective on its own competency in data management, data security, data leadership and vision, and availability of skilled data workers. It also evaluates how a company sees itself compared to its peers.

IDC surveyed more than 2,400 companies worldwide across various industries to gather insight on current and future plans to invest in technologies important to digital transformation. Each metric within each assessment vector is weighted relative to its importance in achieving a high level of competence.

Each assessment vector has also been weighted relative to its importance in achieving an optimized data-readiness state. The aggregate score becomes the DATCON level for the respective industry. All scores were informed by IDC proprietary models, primary surveys (as described above), expert insight, and direct interviews with various Fortune 1000 companies.

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