Eliminate Digital Asset Chaos with a Rich Media Ecosystem

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Digital Assets Are Lifelines for Today's Media-intensive Businesses

Everywhere you turn – whether working online, surfing the web to find recipes, watching the latest SNL skit, browsing your favorite print catalog, or simply strolling through a retail store saturated with revolving product ads embellished by video and music – you can't help but think our world has gone multimedia mad. Increasingly, human environments pulsate with a rich, non-ending flow of visual/auditory stimulants, all designed to make us buy more, learn more, and be entertained more. As a result, if your business intends to thrive and win in today's marketplace of products, services, and new ideas, it's no longer sufficient to master text – customers now live, shop, and work in a 21st century version of a hieroglyphical world.

Living in this multimedia-saturated melange is interesting, compelling, and exciting. But it also creates – behind the scenes – a major corporate challenge that is barely under control, or even totally out of control, as companies scramble to collaborate, create, manage, update, distribute, and publish a vast collection of constantly changing (and often legally restricted) media assets. How can marketing and technology executives manage this complex picture of duplicated, lost, and misplaced files stuffed in places such as standalone file folders, shared folders in the cloud, Dropbox, and Box?

The answer is: DAM it. That's right, digital asset management (DAM) is exploding on the scene in many enterprises and SMBs, driven by the seemingly unlimited marketing dependency and consumer demand for rich media. DAM software, which – unlike web content management or content management systems – is fine-tuned to manage vast collections of rich media, is defined as follows:

> Software for managing the usage of rich media assets, including photos, recordings

(music, podcasts, audio books), videos, logos, presentations, animations, electronic games, high-resolution graphics, podcasts, and other multimedia content. DAM software manages, stores, retrieves, and delivers rich media assets while also enforcing digital rights, including copyrights and permissions.

Once viewed as a highly specialized, niche technology exclusively targeted at entertainment, media, and publishing companies that create media-based intellectual property, DAM has since gone mainstream, attracting many industry sectors that rely upon large collections for branding and advertising purposes. How? By maturing as a product category and market segment, by early adopters implementing more mature architectures,[1] and by organizations understanding the strategic value of DAM in addition to productivity gains and cost savings. DAM is now taking the enterprise by storm – helping any organization, in any industry, get its arms around facilitating, leveraging, and protecting the use of valuable media and other digital assets. The wider-spread deployment of DAM is driven by these players:

- **Businesses that monetize and license brand and intellectual assets as products.** Not only do brand name entertainment (e.g., Disney), publishing (e.g., Marvel),[2] and video game (e.g., Dambuster Studios), companies depend on a DAM lifeline to manage the creation and control of digital products, but other, somewhat adjacent industries such as major league sports (e.g., Major League Baseball), trade associations, non-profits, museums,

and universities now realize they can create valuable multimedia assets as by-products of their business, and are using DAM to help spin rich media "gold" into marketable products.

- **Marketing groups that manage valuable digital assets for branding and selling.** Marketing's charter to create, manage, and leverage a broad spectrum of assets for corporate/product branding and advertising spans many diverse industries, including retail, automotive, manufacturing, oil and gas, pharmaceuticals, and consumer packaged goods. Any organization that makes heavy use of TV, print, and web advertising, product catalogs, store signage, or food menus is a strong candidate for DAM. Brand management, digital marketing, digital commerce, and omnichannel customer service are among the business functions that rely heavily on assets and put deep stresses on managing rich media.

- **Enterprises that want to lower risk by controlling the use of corporate materials.** PowerPoint presentations, corporate video for marketing and training purposes, corporate and brand logos, copyrighted photographs, graphics, and marketing collateral proliferate in many large, often decentralized, businesses across virtually every industry sector. Marketing, sales, legal, and IT executives concerned about copyright risks, out-of-date information (which could create liability issues), inconsistent corporate messaging, and brand inconsistency are all candidates for DAM.

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Clearly, DAM has grown far beyond its specialized origins to tackle some of the most pressing multimedia problems that large marketing organizations face. Every business could benefit from some type of DAM system. As a result of increased demand, the DAM market is expected to reach $5.66 billion (US) by 2022, with a CAGR of 18.3%, according to MarketsandMarkets.[3] Slightly more bullish, Technavio forecasts the worldwide DAM market to grow at an impressive CAGR of approximately 21% during 2017-2021.[4]
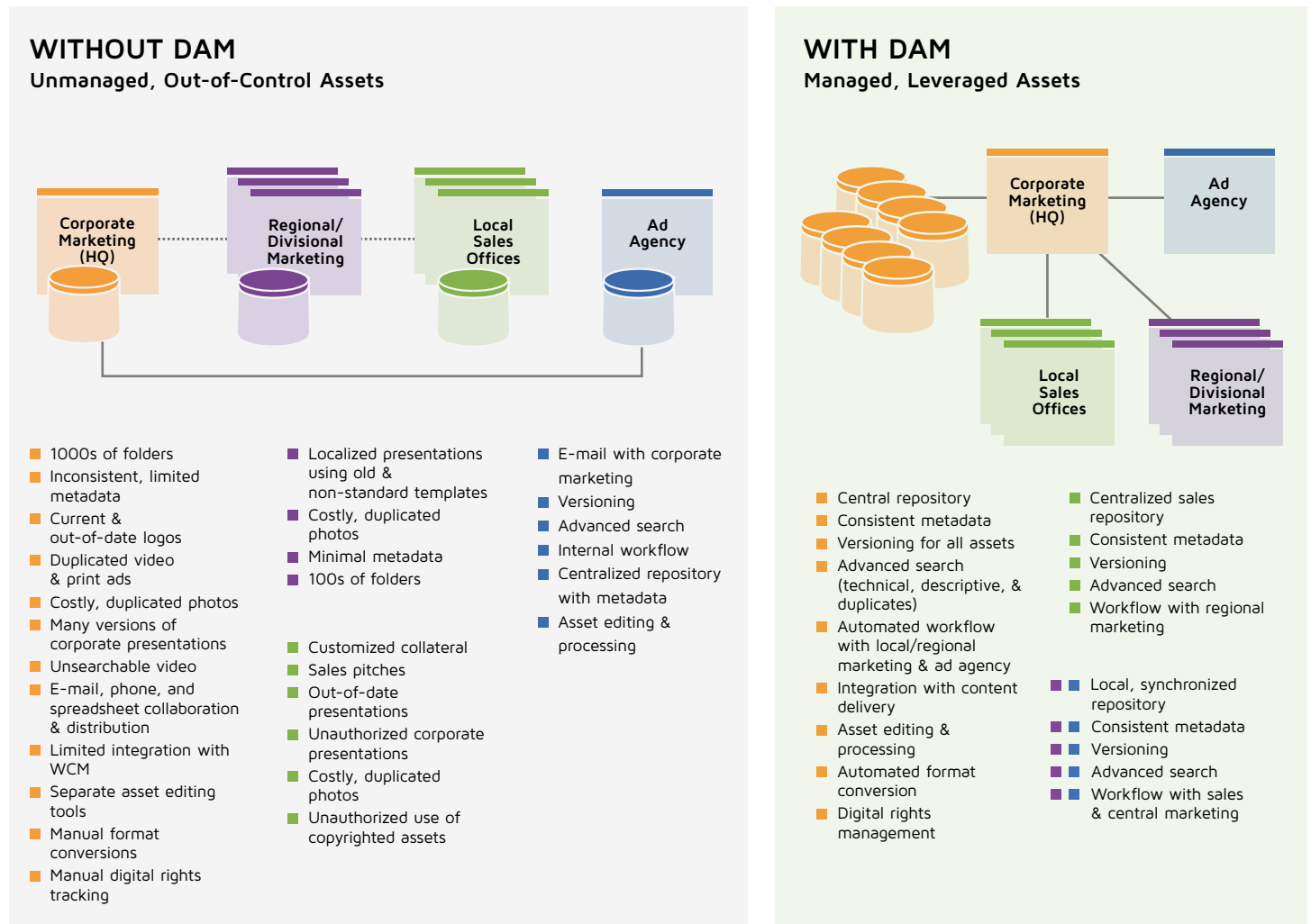
Life Without DAM Is Not Easy and Is Potentially Risky

Managing, controlling, and leveraging rich assets without a DAM system is a tall order for any marketing department, business department, IT organization, or large enterprise.[5] (See Figure 1.)

Problems typically encountered when there is no DAM solution include the following:

■ **Difficulty finding a specific asset** – some organizations literally have hundreds of

Figure 1
DAM: Before and After

WITHOUT DAM
Unmanaged, Out-of-Control Assets

- 1000s of folders
- Inconsistent, limited metadata
- Current & out-of-date logos
- Duplicated video & print ads
- Costly, duplicated photos
- Many versions of corporate presentations
- Unsearchable video
- E-mail, phone, and spreadsheet collaboration & distribution
- Limited integration with WCM
- Separate asset editing tools
- Manual format conversions
- Manual digital rights tracking

- Localized presentations using old & non-standard templates
- Costly, duplicated photos
- Minimal metadata
- 100s of folders

- Customized collateral
- Sales pitches
- Out-of-date presentations
- Unauthorized corporate presentations
- Costly, duplicated photos
- Unauthorized use of copyrighted assets

- E-mail with corporate marketing
- Versioning
- Advanced search
- Internal workflow
- Centralized repository with metadata
- Asset editing & processing

WITH DAM
Managed, Leveraged Assets

- Central repository
- Consistent metadata
- Versioning for all assets
- Advanced search (technical, descriptive, & duplicates)
- Automated workflow with local/regional marketing & ad agency
- Integration with content delivery
- Asset editing & processing
- Automated format conversion
- Digital rights management

- Centralized sales repository
- Consistent metadata
- Versioning
- Advanced search
- Workflow with regional marketing

- Local, synchronized repository
- Consistent metadata
- Versioning
- Advanced search
- Workflow with sales & central marketing

thousands, or maybe even millions, of rich media assets stored across multiple places, with differing types of metadata and file structures, and no centralized search, making it extremely difficult to find a specific asset or even know about its existence.

- **Risk of using the wrong version** – without some way to manage, structure, and version rich media, an employee, contractor, or agency could easily grab an out-of-date asset or a restricted asset (e.g., company confidential) and use it inappropriately in a high-profile campaign.

- **Inability to avoid duplication** – the widespread replication of assets that are stored in shared drives, in the cloud, and in Dropbox creates another problem, clogging bandwidth, wasting storage (on a large scale), and wasting time managing/indexing duplicate assets.

- **Enduring low bandwidth for transferring video files** – often firms have grown their rich media assets without adhering to any standards or using consistent architectures, leading to poor/unplanned networking requirements for behemoth video transfers.

- **Unwittingly violating intellectual property rights** – many rich assets have restrictions on usage and citation; if that guidance is lost, the organization runs a very real risk of a lawsuit, plus penalties and damages to the injured party. For example, copyrighted music may be restricted by the artist so that it cannot be used for certain political purposes.

DAM Functionality Throws Businesses a Lifeline to Solve Media Issues

DAM solutions are designed to square off against the issues most organizations encounter when trying to manage large collections without a suitable system. Some of the key functions that help get rich media under control are shown in Table 1, and the benefits derived from DAM are shown in the "after" view in Figure 1.

Table 1
DAM Functions for Managing Rich Media

Functions	Description
Repository	DAM systems archive and version different iterations of logos, photographs, videos, games, animations, recordings, etc., or industry-specific assets (e.g., CAD drawings, seismic studies).
Metadata	Metadata allows users to tag and find the right version of the right asset, using system-provided embedded data (e.g., resolution), technical data (e.g., file type), and user-provided descriptive data (e.g., color, specific images in the asset).
File System/ Taxonomy	File systems and taxonomies impose order on how assets are categorized, organized, and tagged.
APIs/Integration	APIs integrate DAM with content creation software, e-commerce, product information management systems, content management systems, ERP, PLM, and other systems.
Security	DAM systems offer controls for access to assets, including authentication, authorization, and digital rights.
Workflow	Routing software uses rules and roles to route information between users and supports the digital supply chain with media partners, customers, and employees.
Search	Search supplements metadata by accessing assets by specific parameters, such as GPS embedded in the asset, color, asset type, and size.
Portal	The portal manages delivery for omnichannel distribution, web publishing, and brand management.

Organizations that implement DAM systems to support their graphics, creative designers, and media team have found that it really does tackle some of the biggest headaches associated with creating, using, leveraging, and managing rich media. Monster Energy and one large museum are two examples out of many that have derived significant value from DAM for creative groups and the business at large.

Monster Energy Gets Tremendous Value from DAM

For most of its existence, Monster Energy managed its rich media like every other company, using simple folders and a project management tool to keep track of assets. Given the company's hypergrowth over a thirteen-year period, no one had time to even consider the need for something better. However, as the organization grew, managers began to realize the need for and the importance of managing the use and control of digital assets throughout the company. As a result, the company selected a global DAM system that the organization could grow into, and then implemented the DAM solution in the graphics department first. Monster's implementation plan was pragmatic and effective; they started small and planned to expand the system once they learned how to best use it in their environment.

By implementing a day-forward repository strategy, Monster avoided a massive backfile conversion and instead got off to a quick start.[6] Although the company had many assets in countless folders, the project team didn't attempt to tackle assets that were scattered across the entire organization.

Instead, they replaced the largely manual process of physically proofing assets with an automated process for reviewing digital assets. This approach helped the creative team members do their jobs better and without rework, while also providing greater control over digital rights.

Monster envisions that DAM will become the corporate hub for media assets, providing a tool for managing the creative process and integrating rich media with the CMS for content publishing. Over time they expect several other systems to be connected to DAM, such as the ERP system. They also foresee that many other offices will be supported by the DAM system. However, right now, the team's biggest challenge is to create awareness, educate employees, and disseminate best practices about what is available through DAM – without overwhelming everyone. Approximately 70% of the project manager's time is spent on organizational change management, particularly in communicating with everyone about how DAM applies to their jobs.[7]

These are some of the benefits:

- Greater visibility of assets – previously stored in silos – across groups

- More permeability of information between departments

- Improved understanding of how other departments use assets

- New confidence that all content on the website has been reviewed and approved (prior to DAM, the Director of Marketing could not make that statement)

## Success Leads to DAM Proliferation and More Success

So often, even after a DAM system is implemented and is delivering impressive results, the pressures on other creative teams throughout the business don't let up. Instead, many of the brands, locations, and organizational groups not on the new DAM solution are still stuck in their old environments. Despite the business' insatiable craving for the latest rich media, new expectations for omnichannel delivery, and ratcheted pressure to build/reinforce the brand(s) through clever use of media, these creative groups and the business people they support that are outside the new DAM system often stay on shared folders. And the limitations of managing assets in folder systems are sometimes perpetuated and magnified by mergers and acquisitions that catalyze even further exponential growth of asset collections.

Ultimately, additional DAM solutions begin to surface in the business, as brand-specific, location-specific, or other divisions decide to implement DAM. As Figure 2 shows, the proliferation of departmental systems is often the path to solving the many remaining rich media issues throughout the organization.

And why not? A departmental adoption pattern throughout the enterprise provides the same type of benefits that Monster Energy realized. However, before taking that approach, project teams need to examine some of the issues that surface with proliferating DAM systems:

■ **The DAM systems can easily become silos.** Although departmental DAMs move the work from manual to automated, and provide many

Figure 2
The Evolution of DAM in the Enterprise
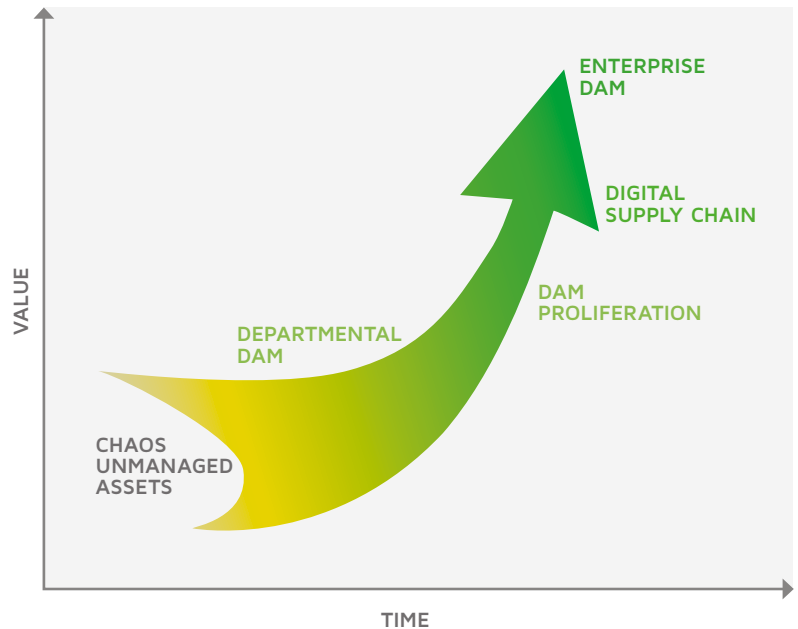
benefits, these systems typically perpetuate the information asset silos that existed and thwarted the organization prior to automation. These silos serve to keep rich media assets in isolation rather than easily accessible to all authorized users.

■ **Metadata may not be standardized.** Metadata is the key to finding assets and managing their digital rights, but without standardization each standalone DAM system may have a different way of indexing and organizing its assets. The lack of standardization makes it difficult to access content across the enterprise.

■ **Duplication can easily be perpetuated.** Unless there is an enterprise-wide perspective to examine the assets within each repository,

it would be easy for organizations to put duplicate and out-of-date assets into multiple systems.

While departmental DAM solutions may be unavoidable, and – importantly – may provide an evolutionary path to enterprise-wide DAM, project teams owe it to the business to at least take these measures:

1. Avoid an unchecked DAM proliferation throughout the organization

2. Take a strategic, organization-wide viewpoint when implementing departmental systems, such as standardizing the metadata schema

3. Instead of proliferating departmental systems, take an enterprise-wide approach for standardizing, managing, and sharing rich media across the organization

It's not unheard of for organizations that start with a single DAM solution to end up with multiple DAM systems within a two- to three-year period. With so many systems, organizations could potentially save millions of dollars over the course of three to five years by consolidating into a centralized or distributed approach for their digital assets. How can they realize these savings? By reducing the duplicative cost of software, hardware, and support for multiple systems, by minimizing the amount of media assets bought (photographs, graphics) and created (print ads, video) for multiple sites, and by avoiding the costs and fines of potential litigation for such things as license infringement. Centralizing onto a single, enterprise DAM enables teams to instead repurpose and share their rich media and maximize the assets' ROI.

Enterprise DAM Supports a Rich Media Ecosystem

Implementing enterprise DAM is both achievable and desirable, but it takes some planning and foresight. It helps to think of enterprise DAM as a foundational technology that the business can build upon while leveraging assets in a more strategic and effective way than with separate standalone solutions. Here are some decisions that project teams must consider when looking at DAM from this angle:

■ **Centralized versus distributed architecture.** A centralized system is just that – one system where all the assets are stored and managed. Given the massive size of video and other rich media assets, this may be an impractical approach for a widely dispersed organization. In contrast, a distributed approach locates the DAM systems near the creative and business teams that use a subset of the assets most of the time but, importantly, this approach is not a separate, siloed system. Instead, the metadata are linked and the repositories are integrated, making it possible for users to search the entire distributed system. Networking considerations are also important when looking at the network demands for either a centralized or distributed architecture.

■ **Integration with content management systems.** While content management systems (CMS) can manage rich media assets, these solutions are not optimally designed to store, manage, retrieve, and control digital rights for large collections of rich media. Similarly, DAM solutions were not designed to publish

rich media content, particularly in support of omnichannel delivery. Instead, most organizations use DAM for rich media creation and management and CMS systems for publishing rich media.

- **Integration with other corporate systems.** CMS is not the only technology that integrates with DAM systems. Quite often, DAM is integrated with product information management systems (which often have photographs or videos of the product) and e-commerce solutions.[8] Also, many organizations use rich media assets in their enterprise resource planning (ERP) system, their product life-cycle management (PLM) system, and their supply chain management (SCM) suite. Planning how, when, and with which business suite the DAM system should be integrated is part of an enterprise-wide rollout.

- **Automation of digital supply chains.** One of the truly impressive benefits from a DAM implementation occurs when the organization automates the creative business process from end to end, rather than simply using DAM for storage and archiving. The term plays upon "supply chain management" but is specific to the creation, management, and delivery of rich media. The digital supply chain process, which can be automated by integrating DAM with business process management (BPM) software, supports the entire process that the creation team uses – whether an agency, an internal team, or a combination of both – and

follows from the conceptualization of media, through the production and sign-off steps by the business sponsor, to the delivery of consumable media to the target audience.[9] The digital supply chain delivers even greater ROI (usually 3-5 times) by integrating rich media assets into streams of work with many participants than is delivered by a DAM solution used primarily for repository services.

- **Deployment strategy.** The advent of cloud gives organizations more flexibility than a solution that is strictly on-premises. Implementation teams now have the choice of on-premises DAM, cloud-based DAM, or a hybrid solution. One option that may appeal to early DAM users is to start out with a cloud-based solution, which is faster and less expensive to implement, and then consider moving to on-premises or a hybrid approach as DAM is deployed more broadly throughout the enterprise. The key is for selection and implementation teams to look for a solution partner that offers all three options, providing maximum flexibility.

A Large Museum and Research Group Exemplifies Enterprise-wide DAM

One internationally recognized museum and research organization houses one of the world's largest, most mature enterprise DAM deployments. Started in 2002, the system has since grown to support 138 million objects taking up 1.4 petabytes in the current production repository. Rich media includes still images, videos, audio recordings, digital representations of 3D objects, and digital art. The system is considerably more than a huge storage system; it also delivers content, making the assets shareable internally and available to the public.

In 2008 the pilot project began to transition the system from its early beginnings to an enterprise DAM solution. Many modifications were made to the supporting technology, and now the DAM comprises specialized servers for exporting assets, workflow, a DBMS, storage, and digital streaming. One important component of the project focused on metadata standards, resulting in a metadata model. But the major challenge was not technology – it was organizational change management.

Initially, the project manager focused on communication, education, and training to win the researchers' hearts and minds. That work paid off because by 2015, the organization had developed a preservation strategy, preservation guidelines, metadata practices, and mass digitization. Now they are working on organizational infrastructure, digital object management, and infrastructure and security. Clearly DAM is far more strategic than a mere storage system and has instead been woven into the very fabric of the organization.

Get Started by Developing a DAM Foundation

Given that enterprise-wide or foundational DAM provides substantially greater value than departmental solutions and proliferation, *and* that the digital supply chain increases the ROI of enterprise DAM even more, organizations should evaluate if and when to take this architectural approach. Here are some factors that indicate the need for foundational DAM:

- Multiple geographic locations that create, manage, use, and share rich assets

- Multiple brands that often share or reuse assets created by other brands

- Multiple business units (e.g., departments, regions, divisions, etc.) that share or reuse digital assets across the firm

- Extensive problems with duplicated or out-of-date information across the organization

- Significant exposure to business risk from the misuse of restricted media

- Other successful content architectures within the organization that use either a centralized or distributed approach

- Centralized creative and technical resources

By taking the journey from a single implementation, to proliferation throughout the organization, to an enterprise-wide, foundational ecosystem, the business will move from rich media chaos to a valuable business solution for leveraging digital assets.

Endnotes

1 Mature DAM requires a system architecture that is flexible, extendable, user-friendly, and standards-based, and connected to external asset systems and other systems (e.g., YouTube and content systems) through APIs and connectors. The system administrators and users use the DAM system to manage templates and metadata.

2 Marvel is owned by Disney but maintains its own branding.

3 "Digital Asset Management Market," http://www.marketsandmarkets.com/Market-Reports/digital-asset-management-market-96538567.html

4 "Digital Asset Management - Market Drivers and Forecast," http://www.businesswire.com/news/home/20170120005057/en/Digital-Asset-Management---Market-Drivers-Forecast

5 For more insight about a large-scale DAM deployment, see "The Maturation of DAM and Digital Preservation at Smithsonian Institution Presentation," Isabel Meyer, https://youtu.be/hCp1FL_INYs and "This is How You Photograph a Million Dead Plants Without Losing Your Mind,"
The Washington Post, https://www.washingtonpost.com/news/speaking-of-science/wp/2017/02/08/this-is-how-you-photograph-a-million-dead-plants-without-losing-your-mind/

6 Companies use differing strategies for converting old repositories to a new DAM system. A complete backfile conversion is often too costly and too fraught with duplicate information to be a viable approach. Instead, many organizations opt to start using the new system on a day-forward basis, which means that new assets are stored in the DAM repository while older assets remain in their original location(s). A hybrid approach is to adopt a day-forward strategy while also converting old assets as needed to the new repository whenever they are used after the DAM system is implemented.

7 "Organizational Change Management: An (Emerging) Core Competency for Customer Experience Management," Digital Clarity Group, http://www.digitalclaritygroup.com/change-management-competency/

8 "Digital Asset Management Round-Up, December 2015," Digital Clarity Group, http://www.digitalclaritygroup.com/digital-asset-management-round-up-december-2015/

9 The term "digital supply chain" was first used in 2001 in *Supply Chain Strategies* by Tony Hines.

About Digital Clarity Group

Digital Clarity Group is a research-based advisory firm focused on the content, technologies, and practices that drive world-class customer experience. Global organizations depend on our insight, reports, and consulting services to help them turn digital disruption into digital advantage. As analysts, we cover the customer experience management (CEM) footprint – those organizational capabilities and competencies that impact the experience delivered to customers and prospects. In our view, the CEM footprint overlays content management, marketing automation, e-commerce, social media management, collaboration, customer relationship management, localization, and search. As consultants, we believe that education and advice leading to successful CEM is only possible by actively engaging with all participants in the CEM solutions ecosystem. In keeping with this philosophy, we work with enterprise adopters of CEM solutions, technology vendors that develop and market CEM systems and tools, and service providers who implement solutions, including systems integrators and digital agencies.

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