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With the explosion of mobile and social, many organizations struggle to deliver consistent experiences across channels. Their challenges will only grow with the need to deliver content to native mobile apps, IoT, ecommerce, and other digital touch points. That's where next-generation content management comes in.

The Evolution of Content Management: **Omni-Channel Experience Delivery**

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Questions posed by: Adobe

Answers by: Melissa Webster, Vice President, Content and Digital Media Technologies

Q What is the biggest trend or disruptor in the content management space today?

A The biggest disruptor for content management is the need to support omni-channel content delivery. We've dealt with the proliferation of digital channels for a while now, but we're entering a new phase today that is ushering in new challenges for content management.

Perhaps a little historical context helps put this in perspective.

Web content management (WCM) systems were initially designed to help teams create, manage, and publish websites. When they first appeared several decades ago, the web was the only digital channel organizations needed to worry about, and PCs were the only device. Content was delivered as HTML.

With the explosive growth of mobile and social, digital channels proliferated. Organizations needed to deliver experiences to a growing list of social media sites and an array of devices — all with different capabilities, form factors, and bandwidth constraints. The customer journey became multichannel, making it more challenging to deliver a connected experience across the different touch points.

WCM vendors responded with new features that let users syndicate content to a brand's social pages, push content to a brand's hybrid mobile apps, and deliver responsive (and accessible) websites that rendered across different devices. These were still HTML experiences mostly managed by the WCM system.

Over the past few years, digital channels and devices have continued to proliferate. Today, organizations must deliver content to native mobile apps, Internet of Things (IoT) devices, messaging apps, ecommerce systems, email campaigns, and other digital touch points that the WCM system does not control. Because many of these experiences aren't HTML based, delivering HTML-formatted content to the developers building custom apps just complicates their work.

Content management systems must evolve to support all digital channels and deliver content in whatever format is required, whether HTML, XML, or JSON. This way, organizations can derive full value from their content investments and ensure brand consistency across channels. A unified approach is key. Dealing with all the renditions required for different channels is already a challenge. As we layer personalization on top, it only gets harder.

Q How do you anticipate content management evolving in response to growing omni-channel requirements?

A We've seen a fair amount of start-up activity around "headless content management," and the feature sets in these new offerings offer a glimpse into how traditional WCM systems can evolve for omni-channel content delivery.

Headless content management systems handle content in a channel-agnostic way. Content is stored and managed independently of how it will be presented and retrieved via API calls. Formatting and other content transformations are the responsibility of the app or system delivering the digital experience. The headless system essentially functions as a content server.

Headless solutions are appealing for developers using popular JavaScript frameworks such as Angular.js, React.js, and Vue.js because they can retrieve the content they need programmatically without HTML markup. (Headless systems generally support both XML and JSON output.) These solutions largely free developers from having to master a more complex content management system, significantly reducing their learning curve.

Leading brands are investing in innovative custom apps to deepen customer engagement and create competitive advantage. WCM vendors will place increasing emphasis on the needs of front-end developers given the size of the developer community and its growing influence. We already see leading WCM vendors bringing headless capabilities to market to support custom apps and to integrate content into other applications.

Q What would a next-generation content management solution look like?

A Such a system will provide the best of both worlds in a unified platform as a hybrid solution. It will support both web-based and non-web experiences whether headless or delivered by the WCM — and provide robust tooling for each role that contributes to digital experience creation and delivery, along with workflow and other capabilities that foster collaboration. In terms of capabilities, there are three aspects.

A next-generation content management system provides the best of both worlds a unified platform that supports both web-based and non-web experiences.



#US44384118 Page 2 First, enterprise-class WCM systems have evolved rich feature sets to let diverse teams deliver global, multibrand, multilingual websites. WYSIWYG editors allow marketers and other nontechnical business users to author and publish websites without IT's help. CSS templates give designers control over the look and feel of the site. APIs and component-based architectures let developers integrate the WCM system with other applications and plug-in widgets. Administrative interfaces enable IT staff to manage deployment and ensure compliance and security. Workflows coordinate the efforts of contributors and automate routine tasks, streamlining the overall process. These are mission-critical systems and the foundation of digital experience delivery. The need to manage global websites means a next-generation system must carry all this forward.

Second, next-generation systems will provide improved support for developers building custom apps and integrating content into other applications. That is, they will incorporate the previously mentioned headless capabilities.

Third, a next-generation system should leverage the opportunity afforded by a unified platform to bring developers and business users together in custom development efforts. One of the challenges with headless systems is that marketers are left out of the loop. WCM vendors, on the other hand, have catered to the needs of marketers and nontechnical business users for a long time with capabilities such as in-context authoring and review and approval processes.

This is an area where WCM vendors can add significant value. We expect them to provide additional capabilities such as single page application (SPA) editors that enable developers and content authors to collaborate effectively on custom-developed experiences as well as channel-agnostic "fragments" that let marketers define a group of related assets. WCM vendors will also extend their workflow capabilities to support headless projects.

Q What should marketing and IT leaders ask of their vendors to ensure their content management investments can meet omni-channel/connected experience needs?

A The shift from multichannel web experience delivery to omni-channel content delivery has major implications for web content management. We don't see an evolutionary path for legacy page-based solutions. Organizations should take stock of their WCM solutions and plan to retire and replace any page-based systems unless their digital experience needs are limited to website publishing. Smaller organizations may decide to continue with their legacy or homegrown systems, but organizations concerned with innovations in digital experience should take this opportunity to upgrade.

WCM solutions with a decoupled architecture — meaning those that manage content separately from presentation — generally offer some support for headless development. Organizations should evaluate their vendor's content APIs and support for JSON (or other output formats) according to their development requirements.



#US44384118 Page 3 Organizations should discuss their road map for omni-channel content delivery with their vendors, both to communicate their needs and to gauge a vendor's level of commitment and vision. They should also tap their vendors for help with best practices, particularly around structuring content in a channel-agnostic way, and inspiration, including innovative use cases from peers.

Further, dynamic media and the cloud will play increasingly important roles in content management and delivery in the future. Leading WCM vendors have already embraced managed cloud services as a preferred deployment model, freeing IT staffs from routine operational tasks. Eventually, core content management capabilities will migrate to cloud-native services, putting content at the edge and combining it with dynamic media capabilities. Organizations should ask their vendor about its long-range plans for leveraging cloud-native services, dynamic media, and artificial intelligence and machine learning for content and experience management.

We believe a next-generation content management system is the key to success. Marketing organizations are struggling to keep up with the need to accelerate global launches, run more campaigns, and deliver experiences more quickly; IT is struggling with content management challenges as it develops innovative new experiences in collaboration with marketing. As we move into the era of personalization, the amount of content organizations must create, manage, and deliver will multiply. Now is the time to put the right foundation in place.



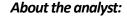
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Learn more about how Adobe Experience Manager Sites can help you manage your content effectively.



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Melissa Webster leads IDC's research on digital experience management software and cloud services. Her coverage area encompasses solutions for web content management, digital asset management, content marketing, user-generated content (UGC) harvesting and curation, mobile content apps, online video solutions, and rich media analytics to support the digital experience.



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