New strategies for more efficient collaboration



vjoon Whitepaper

Unified Publishing Process Simplify the management of complex publishing processes







44 Zettabytes.	2
Taming Complexity.	4
Abstract and Adapt.	6
Sources.	8

Content

44 Zettabytes.

The digital universe is not unlike the physical universe in that they are both vast. In 2013, it was estimated to contain around the same number of digital bits as there are stars in the universe. The source of this figure was an EMC study conducted with the IDC and published in May 2014 called "The Digital Universe". ⁽¹⁾ And it is growing fast with all the data we generate and copy. This figure is expected to increase tenfold by 2020, to 44 zettabytes (ZB) or 44 trillion gigabytes.⁽²⁾ If that number seems too abstract, consider this: If this data was to be loaded to iPads (iPad Air, 128 GB) and the devices were to be stacked, the tower of tablets would be 6.6 times as high as the distance from the earth to the moon.

Where is all this data coming from?

Some 7 billion people populate the planet, around 2.9 billion of whom browse the Internet's 1 billion or so websites. With every second that passes, we collectively receive and send around 2.4 million emails, post 7,000 tweets, launch nearly 44,000 Google searches, watch 83,000 YouTube videos and make 1,500 Skype calls, generating some 22,000 gigabytes of web traffic.⁽³⁾

Around 187 trillion devices or "things" (tablets, smart phones, cars, refrigerators and gadgetry with sensors) are connected to the Internet, but only 7% are linked to each other. Surprisingly, this IoT, or Internet of Things, makes up just a small portion of the digital universe. However, the proportionate share of connected "things" will grow to 15% by 2020.

The actions of individuals – emails, blogs and other posts, tweets, photos, videos, etc. – account for most of this data load, around 70% of the digital universe. Companies, in turn, use nearly 85% of this data, for example, for user accounts, email addresses, geo data and so on.

How do we handle this deluge of data?

'Big data' is the latest IT catchphrase these days, following hard on the heels of the buzzwords 'cloud' and 'collaboration' bandied about by many businesses and their IT managers. The general idea may go by many names, but it all boils down to a couple of key challenges. One is, "How do I reel in the big fish in this ocean of data?" A great deal of effort is being exerted to compile increasingly accurate customer and user profiles, the point being to target products and advertising with greater precision. However, businesses are also looking for better ways of structuring their information processing, so the other big challenge is, "How do we get the right information to the right person at the right place, in the right quality and at the right time?"

A symphony of specifics

Companies are not just concerned about managing and analyzing individual content or tidbits of information more efficiently. Many want to combine these specifics dynamically to create new, more complex content. For example, these bits and pieces could be merged to generate larger contracts, documentation for projects, sales collateral, product flyers and corporate publications such as annual reports, customer magazines and employee newsletters in digital formats, as well as in print should demand dictate it. Publishing houses and media companies have been making national and regional dailies and weeklies, trade magazines and glossies for a long time. Although most were launched as printed publications, many have also been available on the web for years. And lately we are seeing more and more tablet and smartphone editions hit the virtual stands.

Island solutions rather than efficiency

A few generalities about media and corporate publishers' printed output have held true over the years. The products of linear workflows, they featured elaborate layouts and well-researched articles that delved deep into the details. Online publications brought other advantages to bear, in particular, streamlined workflows and content that is very much up to date. Each area was an island unto itself, with conventional editorial systems built for one purpose and web CMSs for another. The revenue divide was vast in the beginning, and efficiency was not a top priority in light of cost-benefit considerations. This situation was exacerbated when tablets arrived on the scene. The first priority was to test the waters to see what could be done and what should be done to attract readers. If 'delivering' systems such as the Adobe Digital Publishing Suite with print and web 'production' systems were connected at all, this 'integration' was often limited to little more than copy & paste. Much was reformatted and edited manually. It was already a challenge to cater to iOS and iPads with 1024x768 pixels resolution, but that complexity was soon compounded when Android and Windows tablets and Apple's Retina Display arrived. Preparing publications individually for so many different formats was hardly a feasible business proposition. Smartphones finally relegated the notion of purely manual workflows to the realm of the absurd.

The result of this fast-rising swell of digital output formats is a deluge of content and data, as well as immense time and cost pressures that threaten to swamp publishers.

It is time to chart a new course.

The **DIGITAL** Based on: EMC Digital Universe 2014, Figures and Analytics by IDC; **UNIVERSE** internetlivestats.com The **digital universe** is huge 4.4 ZETTABYTES and growing exponentially. $\Lambda\Lambda$ ZETTABYTES Represented by a stack of tablets, in 2013 it would have streched two-thirds of the way to the Moon. By **2020** there would be 6.6 stacks from the Earth to the Moon. 2014 2.9 Bn. **INTERNET USERS** WEBSITES 7.000 2.4 Mio. Every Second WFFT EMAILS 44,000 83.000 SEARCHES YOUTUBE VIDEOS 2013 2.9 ZR **0.6** ZB (1 1.5 ZB

Taming Complexity.

Publishing has become a very elaborate undertaking, and only IT can tame this complexity. The publishing workflow is evolving into something of a value chain within the company. The more efficient this process can be made to be, the more time and costs can be saved along the way. These untapped resources may then be devoted to create quality content or shorten time to market cycles. The factors that figure most prominently in the publishing value chain are:

- · Efficient ways of managing and converting all content
- The ability to reuse multimedia content in multiple channels
- · Integrated external and internal sources and service providers
- The means to quickly test new printed and digital projects
- Quality assurance for both content and technical function

Why do so many established systems fail to deliver?

Modern content management systems address every output channel and map out workflows for text, images, layouts and any other type of object. However, automated routines and process control soon separate the wheat from the chaff. Most systems fall short of the mark when it comes to automation, which is particularly disappointing because so many routine cross-media publishing chores are done manually. It would save the user so much time if these chores were automated. Third-party asset management, web content management and planning systems can be such valuable assets if they can be integrated and controlled. This is why services furnished by providers and system integrators are important. They bridge the gap between the publishing platform and the working environment.

The various systems that contribute to conventional publishing workflows are largely autonomous, operating without a higher level of control. Often they are integrated by way of a customized rather than a standardized solution. Most systems lack process-driven emergency response mechanisms, where the issue is forwarded, automatically and directly, to the person responsible in an emergency situation. Some lack the means to define dependencies between objects, for example, to check if a horizontal or vertical layout for a tablet edition is ready to go before the issue is delivered. Often workflows are purely linear so that individual tasks cannot be returned to the sender, be it an entire team or a specific team member, for revision.

Borrowed from industrial manufacturing: The holistic outlook

Again, cross-media publishing is a demanding pursuit involving some rather complex processes. It cannot be done without a scalable platform that is highly automated, unified and able to accommodate all those complicated processes, at least not with any measure of efficiency. And it requires a holistic, big-picture outlook, especially if editing processes and marketing processes are to be consolidated in the editorial offices and newsrooms that are in place today and across marketing, sales and other corporate divisions.

As studies attest, complex industrial manufacturing and commercial supply chains presented the same sort of dilemma. This problem has been solved with rigorous supply chain management (SCM). The notion of end-to-end control over workflows that incorporate automated processes has been tremendously successful. SCM is shorthand for the planning and management of all supply and logistics tasks, from selecting suppliers to procuring, manufacturing, and delivering goods. It is the tool used to coordinate collaboration among all the players, suppliers, merchants, logistics service providers and customers. SCM integrates management within the confines of an enterprise and beyond its boundaries.⁽⁴⁾

On the road to success with rigorous implementation

The Supply Chain Management Institute (SMI) of the European Business School (EBS), the management consulting firm McKinsey & Company, and the Bundesvereinigung Logistik (BVL or German federal logistics association) joined forces to conduct a study called My Chain Delivers ⁽⁵⁾. It investigated to what extent optimum SCM contributes to a company's business success. The rewards of such a holistic approach to optimization are

- Up to 40 percent lower supply chain costs
- Up to 20 percent higher service level⁽⁶⁾
- Up to 30 percent less inventory

And the positive effects are not limited to the supply chain. Companies that persistently practice SCM have been able to boost their overall revenues.

4

The rewards of a holistic approach to optimization by Supply Chain Management

UP TO **40%** LOWER COSTS.

UP TO **20%** HIGHER SERVICE LEVEL.

Process Optimization by Supply Chain Management

- Synchronize Processes
- Standardize Processes
- Prevent Errors
- Improve Manufacturing Systems
- Train and Qualify Employees

The roots of supply chain management (SCM) date back at least to the 1980s when an early precursor to SCM concepts called just-in-time (JIT) manufacturing and its cousin, the just-in-sequence (JIS) inventory strategy, emerged. The idea behind JIT was to closely coordinate manufacturers and suppliers' processes, which required major adjustments to the value chain. Processes had to be linked so suppliers could track the materials consumed by manufacturers. They had to be made more flexible yet also more stable with an eye to improving quality. Shipping processes and cargo carriers had to standardized, for example, with uniform container systems and truck swap bodies. The Japanese concept of Kanban, or the pull principle, was instrumental in making all this work.

The following factors drove and shaped the emergence of SCM:

- A big-picture view of the total cost of ownership, or TCO, which called for greater cost transparency throughout the supply chain.
- The transaction costs incurred during the transition of material goods, the need to communicate, misunderstandings, communication problems, conflicts between process participants, and so on.
- The bullwhip effect, which is an overreaction to unexpected demand caused by lack of transparency regarding actual demand, misinformation, frequent changes in inventory levels at various points in the process chain, and the like.
- The effects of globalization such as procurement on an international scale, cheap and fast transportation and communication, and worldwide competition.
- More demanding customers who want goods to be available worldwide, regardless of store opening hours, and insist on better quality.

The automotive industry and the retail sector, especially, began exploring notions of customer-centric process chains. While retailers came up with the idea of efficient consumer response (ECR), the Toyota production system changed the auto industry. Called the Toyota Way, its core precepts are to eliminate waste throughout the process to achieve Kaizen, Japanese for improvement. This has come to be known as the continuous improvement process, or CIP for short.



Abstract and Adapt

If a successful industrial manufacturing practice such as SCM is to be applied to publishing, its principles must first be abstracted and then adapted accordingly. One of the key principles of SCM, just-in-time (JIT) delivery, requires a holistic outlook on all participating entities and supply chains.

JIT means delivering

- the right part
- in the right quality (zero defects),
- at the right time (now)
- in the right quantity (one unit)
- to the right place (here).

In publishing terms, this means delivering

- the right content (text, picture, video, etc.),
- in the right quality (a compelling story, well researched and told in captivating words and images)
- at the right time (when a task needs to be done)
- in the right package (together with all the associated elements and information)
- to the right place (the editor, graphic designer, etc.).

This is the basic idea abstracted from industrial applications and adapted to publishing workflows. Of course, at this point we are still looking at this on a very superficial level with the JIT principle merely serving as a rough road map to our destination, which is greater efficiency in publishing. There are several legs to this journey, the speed, distance and time of which depend largely on the system's capabilities and the users' learning curve. However, the advances that have been made in publishing so far are quite similar to the trajectory that developments in SCM took. Let us look closer at these phases.

Phase 1 - Standardize internal processes

Phase 1

The first step is to put in place a system that defines workflows, users, roles and the appropriate permissions, and then coordinates the team's efforts. This initial phase often demands a great deal of effort. Many contributors are concerned that their creativity will suffer if they are compelled to work with such a system. The company has to make this effort because the payoff comes early, as mid-term results would bear out: Productivity increases as the team has to devote far less time and resources to coordinate their efforts. The system takes on most of these tasks, and everyone knows exactly when it is their turn to contribute and precisely what has to be done. This makes the workflow so much more transparent and manageable. Project managers and editors-in-chief can ascertain the project's status at a glance whenever they wish. And the time that is saved on routine chores can be better devoted to enhancing the quality of content.

Phase 2

Phase 2 - Standardize external communications

Once internal processes have been standardized, the company must direct its attention outward. Different systems tend to operate autonomously even when they are used by the same teams for a common purpose. Powerful standard interfaces such as a Web Services API and standardized data formats such as XML facilitate data transfer with digital asset management, web content management and other third-party systems. Outside contributors and remote locations also have to be integrated into the system's workflows. What's more, this needs to be done so that the timing of their contributions is just as process-driven as those of in-house staff. With outside workflows redirected into the system, the publishing process becomes more reliable and manageable.



Phase 3 - Automate routine tasks

Individual tasks can be automated once external and internal processes have been standardized and mapped to a uniform workflow. This applies mainly to the routine manual chores that are so time-consuming. The system may initiate these automated routines at a specific point in the workflow or at a time to be freely designated by the user. This also conserves resources that can be put to better use in pursuit of greater quality and creativity. On top of that, automated routines mitigate the risk of errors, for example, when packaging tablet articles or uploading these to the given delivery service.

Phase 4 - Synchronize and streamline processes

The final phase never ends in that all processes are continuously improved. More and more tasks are incorporated into the process-driven workflow. Some are accelerated while others that are no longer needed fall by the wayside. Several automated routines can be combined into one new automated process chain. For example, the content for different tablets and smartphones can be automatically extracted from a single layout, converted, packaged and conveyed to the given delivery service for testing or publishing purposes. In this phase, the central system also controls processes that have been outsourced to connected systems. It loads the incoming results - for example, edited images - back into the actual workflow once the outsourced task has been accomplished. And if the system provides the necessary functions, tasks that have always been performed by outside applications can even be reassigned to the system.

Benefits on all levels

While conventional publishing and content management systems are equipped to cover phases 1 and 2, they fare rather less well in phase 3. Many systems are severely limited in their ability to accommodate automated routines. Granted, such routines may be added to and managed in some of these systems, but only with great effort. Phase 4, when it comes time to constantly adapt and improve processes, is the ultimate test of a system's flexibility and utility. Only a select few can make the transition to phase 4, but those that do deliver considerable benefits to the user. This is where the abstraction and adaptation of principles culminates, where the philosophy behind supply chain management becomes the Unified Publishing Process. The benefits are many:

- Smooth workflows driven by synchronized, highly automated processes
- Stable, well-balanced publishing routines built on rock-solid standardized and harmonized practices
- A lean process where everyone works with precisely the contents that are needed at the time
- Far fewer errors with transparent processes, fast feedback and flexible emergency scenarios

It pays to invest in the Unified Publishing Process because of these many benefits, and especially the cost savings and productivity gains. The UPP not only streamlines processes for a leaner, better workflow; it also enhances the quality of both digital and printed publications.

The Unified Publishing Process provides the technical means for publishers to enjoy vast improvements in teamwork to deliver efficiently across diverse media, and put organizational and business strategies such as agile publishing and content marketing into practice.

- $^{\scriptscriptstyle (1)}$ Source: "EMC Digital Universe 2014", figures and analytics by IDC
- ⁽²⁾ 1 Zettabyte (ZB) = 10²¹ Byte = 1.000.000.000.000.000.000 Byte ⁽³⁾ Source: www.internetlivestats.com
- ⁽⁴⁾ Source: CSCMP, Council of Supply Chain Management Professionals, www.cscmp.org
- ⁽⁵⁾ Source: My Chain Delivers, October 2009; a study conducted by EBS (European Business School, Universität für Wirtschaft und Recht) Supply Chain Management Institute and McKinsey & Company in cooperation with the German Logistics Association (BVL).
- ⁽⁶⁾ Service level measures the performance of a system. Certain goals are defined and the service level gives the percentage to which they should be achieved. Examples: Percentage of calls answered in a call center, Percentage of customers waiting less than a given fixed time, Percentage of customers that do not experience a stockout.

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