IBM Global Services

Executive Tek Report

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Digital media solutions: Moving from cool to core

Executive Summary – Thanks to advances in bandwidth and available media technologies, digital media (DM) technologies are being integrated into core business processes, such as customer service, education and planning. Solutions in this area can help businesses – including banks, retailers and health services – protect their assets, reduce the cost of communications and increase their market penetration and share. However, differences in the meanings of industry terms and too much focus on sizzle over real value can blur the potential benefits for businesses.

Core DM technologies

Simply put, DM includes any video, audio, text, image or even a product (such as a game) in digital form, as opposed to traditional analog media in the form of tapes, print, photos, art and the like. DM solutions employ digital processes to create, manage and distribute digitized assets. Technology and bandwidth have reached ”critical mass,” now it’s not only *possible*, but *necessary* to integrate DM into core business processes.

The two primary types of DM technologies are those supporting digital content **management** and those supporting digital content **distribution**.

Digital content management

Content management technologies encompass creating, acquiring, managing, organizing, producing and analyzing content. Material can be created in digital form at the outset (digital photos, digital X-ray and MRIs, digital audio or digital games, for example). Alternately, when content is acquired in analog form, ingestion is the process to digitize it, which may involve the use of video encoders, scanners, audio capture and encryption. At this time, content management standards are still evolving, so solutions must accommodate rapid change and be based on an open, interoperable architecture.

Digital content distribution

Content distribution technologies are even more “emergent” than those for content management and are therefore much more challenging. They include new Web services-enabled wireless devices, ranging from PDAs and high-function phones to set top boxes and nearly any electronic digital device. In addition, biometric technologies, such as retinal scans and fingerprints, are another type of content distribution that is often used in Smart Card technologies for security solutions. It’s important to note that from a technical standpoint, content distribution is all very much “up for grabs” right now.

The need for common terminology

One thing to be aware of in an emerging business area like DM is the tendency to ambiguously apply the same term to describe many variations. In the case of interactive television (iTV), for example, there are at least 19 different solution "types," all with different value propositions and varying degrees of technology readiness. So, one of the biggest problems is establishing a common vocabulary. In the DM arena, you cannot take any statement for granted or at face value.

DM adoption

Acceptance of DM has varied by geography. Part of that variance is due to technology maturity, part is because of legal considerations and part is affected by user perspective. For example, many early efforts in interactive TV did not go well and current success still varies by geography.

In the area of wireless functions, Europe far exceeds any capabilities in the US. In that region, one of the top applications is text messaging on a phone. But in the US, it hasn't caught on because the user interface is considered cumbersome. Yet it is very common in other parts of the world, with people sending a few dozen messages per day, and it's particularly appealing to teenagers.

Another example is kiosks, which have great acceptance in Japan. Kids walk into convenience stores, download some new games at a kiosk, then go on their way. But in the US, kiosks are just now gaining a small foothold; the US consumer doesn't like standing in line for a machine (banking automated teller machines being an exception).

Industry scenarios: The power of DM

In general, investing in a digital content management solution will protect assets, while reducing both time and cost to produce content. Digital content distribution offers the means to extend the richness and reach of businesses and increase market penetration and share. Ultimately though, each industry and even each customer may perceive the benefits in distinct ways.

Retail banking

For retail banking, the appeal of DM is accessibility to a broad base of subscribers via the most commonly understood user interface in the world: the TV remote control. A key differentiator is the ability to review your account, apply for a loan and check your balances – all via TV in the privacy of your home – as a "subscriber service".

Government
Driven by security and intelligence needs, many governments are initiating DM projects. They often begin by building a repository containing images of places and people. The next step is a ”soft copy search” which automates the review process and flags any exceptions. Where people are involved, ultimately, this may well integrate into Smart Card technologies that take personal identification systems to a ”preferred status.” Bear in mind that this kind of security process will have to be balanced with civil liberties and privacy issues.

Retail
In retail or any type of commerce, it's all about delivering the right offer at the right time through the easiest channels. Personalization will combine with technology to give the customer increasingly intelligent choices or offers for goods and services. It's like the super clerk who won't let you leave the store without batteries on Christmas Eve, knowing the kids will be disappointed in the morning if you do.

Healthcare
Imagine a doctor visit where you sign in on an e-pad, and your records are queued up to the doctor's wireless pad. During the exam, completed test results are projected on the wall, with color-coded alerts on a physical form. The doctor can point and zoom in on problems, explain options and maybe order additional tests. These are auto-scheduled and loaded into your PDA before you exit. The test institution adds to your electronic medical record, automatically notifies you and the doctor, then escalates if a problem is discovered. And if results come back when you're on vacation, you go to the nearest in-network health provider, and they can access the necessary medical information. All this is orchestrated so that the patient gets the best possible care, with the potential side effect of lower malpractice insurance for doctors.

Cross-industry
For any organization, DM enables a compelling level of customer service. You can get all of your messages, e-mail, home phone and voicemail through any device – phone, TV, PC, whatever. So, if you're traveling, you may get a notice in the car that you're on a congested route. Later you receive an instant update on your plane cancellation before you park at the airport. Then you’re rebooked and notified with a new map by the time you check in. The timeliness value is large.

Questions to ask

Your company may want to consider DM if you answer “yes” to these questions:

- Does your company have difficulty getting to assets?
- Does it take too long for your business to complete projects related to publications, advertising campaigns, customer services, product documentation, Web sites or services?
- Are your operational costs too high for the above types of activities?
- Do you need to improve brand image or customer loyalty?
- Do you need to improve communications within your organization?

Take cues from business needs, not gadgets

The biggest single obstacle to broader adoption of DM is not technology – it's competing business pressures. With the current economic environment, investing in a new area requires compelling value if it is to be prioritized over other ”bread and butter” technology projects that have very predictable, measurable and specific returns on investment. Also, there is always inherent risk with new technologies and emerging standards. Early adoption has its perils.

The economic challenge can be addressed by understanding core business needs and implementing solutions that bring clear, measurable and specific value. For example, a retail organization may gain tremendous value by repurposing image content (for catalog, Web and other advertising) rather than recreating it for each medium.

To get beyond the general feeling that “we need to do this,” it’s important to investigate the possibilities and define a vision. By scaling down the vision into “chunks” of a solution, it will be easier to see past the cool technology to the quantifiable value. The biggest challenge is to avoid being driven by technology, ensuring that business needs lead the way instead – constantly managing and containing the scope of projects in the face of the new “gadget” of the day.

Tek to watch
Content management
Content distribution
Digitization
Smart Card
Wireless
Security
Encryption
Kiosks

About this publication

Executive Tek Report is a monthly publication intended as a heads-up on emerging technologies and business ideas. All the technological initiatives covered in *Executive Tek Report* have been extensively analyzed using a proprietary IBM methodology. This involves not only rating the technologies based on their functions and maturity, but also doing quantitative analysis of the social, user and business factors that are just as important to its ultimate adoption. From these data, the timing and importance of emerging technologies are determined. Barriers to adoption and hidden value are often revealed, and what is learned is viewed within the context of five technical themes that are driving change:

Knowledge Management: Capturing a company's collective expertise wherever it resides – databases, on paper, in people's minds -- and distributing it to where it can yield big payoffs
Pervasive Computing: Combining communications technologies and an array of computing devices (including PDAs, laptops, pagers and servers) to allow users continual access to the data, communications and information services
Realtime: "A sense of ultracompressed time and foreshortened horizons, [a result of technology] compressing to zero the time it takes to get and use information, to learn, to make decisions, to initiate action, to deploy resources, to innovate" (Regis McKenna, *Real Time*, Harvard Business School Publishing, 1997.)
Ease-of-Use: Using user-centric design to make the experience with IT intuitive, less painful and possibly fun
Deep Computing: Using unprecedented processing power, advanced software and sop-histicated algorithms to solve problems and derive knowledge from vast amounts of data.

This analysis is used to form the explanations, projections and discussions in each *Executive Tek Report* issue so that you not only find out *what* technologies are emerging, but *how* and *why* they'll make a difference to your business. If you would like to explore how IBM can help **you** take advantage of these new concepts and ideas, please contact us at **insights@us.ibm.com**. To browse through other resources for business executives, visit

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