

October 24, 2007

Give DOM Its Due

by Craig Le Clair

for Information & Knowledge Management Professionals



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Move Beyond Back-Office Document Production To Interactive Content Apps

by **Craig Le Clair**

with Kyle McNabb, Diana Levitt, and Norman Nicolson

EXECUTIVE SUMMARY

For years, document output management (DOM) has been pegged as a back-office operation that produces customer statements and bills. Now, customer experience demands will thrust DOM into a major software category supporting the growing and diverse content that enterprises must assemble and deliver to customers. Forrester spoke with 25 enterprises experienced in using DOM to understand their priorities. We learned enterprises need DOM to: 1) consistently manage and deliver output for structured, interactive, and on-demand apps; 2) integrate with the many transaction systems, enterprise apps, enterprise content management (ECM), and business process management (BPM) deployments within an enterprise; and 3) link proactively with marketing systems and goals. With an enterprise approach to DOM, I&KM pros can help their organizations improve the customer experience through better personalization, multichannel consistency, and more capable interactive and on-demand applications.

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Forrester interviewed Adobe Systems, Document Sciences, Esker, Exstream Software, GMC Software Technology, Group 1 Software, Hewlett-Packard, Metavante, StreamServe, Thunderhead, and 25 user companies.

Related Research Documents

"The Enterprise Marketing Software Landscape"
May 7, 2007

"Document Processing Services: Options For Information Managers Accelerate And Expand"
March 27, 2007

"Transactional, Business, And Persuasive Content: A Better Way To Look At Enterprise Content"
December 21, 2005

DOM TACKLES CUSTOMER EXPERIENCE NEEDS

Forrester defines DOM as software that creates, formats, personalizes, and distributes documents (customer statements, correspondence, or promotional materials) to improve the customer experience.¹ This definition excludes software used to improve output efficiency — balancing document production across distributed printers, for example. Products vary widely in what they do, what they don't do, and which output processes they support — and I&KM professionals often have difficulty telling them apart. Because of this, I&KM pros supporting the customer experience through the use of documents must deeply understand the types and characteristics of their content and processes before evaluating DOM products. Dividing output into structured, interactive, and on-demand processes, and segmenting based on predictability of output and level of human interaction, provides much greater clarity when trying to sort out the vendors and their diverse products (see Figure 1):

- **Structured output has little variability.** Scheduled and consistently formatted output is the hallmark of this category. The most common structured output is information sent routinely as part of a customer service relationship, where customer-specific data, from transaction systems, are combined with rich formats and prepared for printing. Another example of structured output is regularly scheduled and batched promotional materials. TransPromo documents, a growing segment, combine transactional and promotional content to leverage predictable and long-term customer communication.
- **Interactive output requires a human touch.** A lot of output requires the human touch before being sent to a customer prospect or business partner. Interactive output matches variable data — such as data about the customer such as address or account balance — with structured forms or templates. A workflow process then manages how people enhance and review the document, and how systems finally produce the document. Two growing categories of interactive output are correspondence management and negotiated documents. Correspondence management supports the deadlines, content, structure and work process of incoming and outgoing customer communication. Negotiated documents blend an approved document structure with business content added by multiple parties under the control of a secure and managed repository — such as a contract.
- **On demand output does just that, delivers on demand.** Costs increase whenever a human being touches a document. On-demand output drives the level of human interaction to zero. Customer-oriented events — from the Web, fax, phone, mail, a transaction system, or enterprise app — can trigger on-demand output such as getting a quote on demand, a proposal on demand, or travel itineraries on demand. Customers will soon expect output delivered to a number of channels and devices — on demand.

Figure 1 DOM Content Categories

Content types		
Structured	Interactive	On-demand
Characteristics		
<ul style="list-style-type: none"> • Batch processes • Regularly scheduled • High transaction rates • Advanced table management, external interfaces, and graphics support 	<ul style="list-style-type: none"> • Strong human interaction and authoring workflow • Template management • Specialized front-end “wizards” • Unusual visuals and layouts (marketing materials) 	<ul style="list-style-type: none"> • Based on external input using variable data and business rules • Some real-time processes (statement and quote generation) • Same day correspondence management • Web-to-print apps
Examples of processes		
<ul style="list-style-type: none"> • Financial statements • Telephone bills • Offset and digital print runs for marketing materials 	<ul style="list-style-type: none"> • Negotiated documents (margin, derivative contracts) • Welcome kits • Benefit books • Group insurance policies • Call center correspondence 	<ul style="list-style-type: none"> • Ad hoc correspondence (itineraries, customer service, order confirmation) • Online statement generation • Online quotes • On-demand marketing materials
Required features		
<ul style="list-style-type: none"> • Advanced print-stream support (AFP) • Color support • Post-processing support (scheduling, load balancing, print job management) • Wide variety of input and output format support • Strong UI for statement development • Strong development/integration environment for processing data from back-office systems 	<ul style="list-style-type: none"> • Task list/workflow portal • Strong, easy-to-use authoring support • Variable data and template management • Integration with packaged applications and content repositories 	<ul style="list-style-type: none"> • Business rules (internal or integration with third parties) • Integration with capture (e-forms, email, image, fax) • Variable data and template management • Ability to produce output for all channels
Desirable features		
<ul style="list-style-type: none"> • TransPromo support • Rules engine support 	<ul style="list-style-type: none"> • Personalization of interface for business users • Native authoring support for MS Word and Adobe InDesign 	<ul style="list-style-type: none"> • Strong integration features for back-office and enterprise apps • Strong exception processing • Ability to link with customer self-service portals

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Source: Forrester Research, Inc.


Enterprises Want DOM To Improve The Customer Experience And Lower Costs . . .

I&KM pros we spoke with overwhelmingly plan to invest in DOM to support interactive content applications — and particularly correspondence management. I&KM pros also view TransPromo capabilities and improving the multichannel customer experience to be very important.² Our interview findings suggest that on-demand DOM applications will be growing over the next three years. We found that enterprises want to use DOM to (see Figure 2):

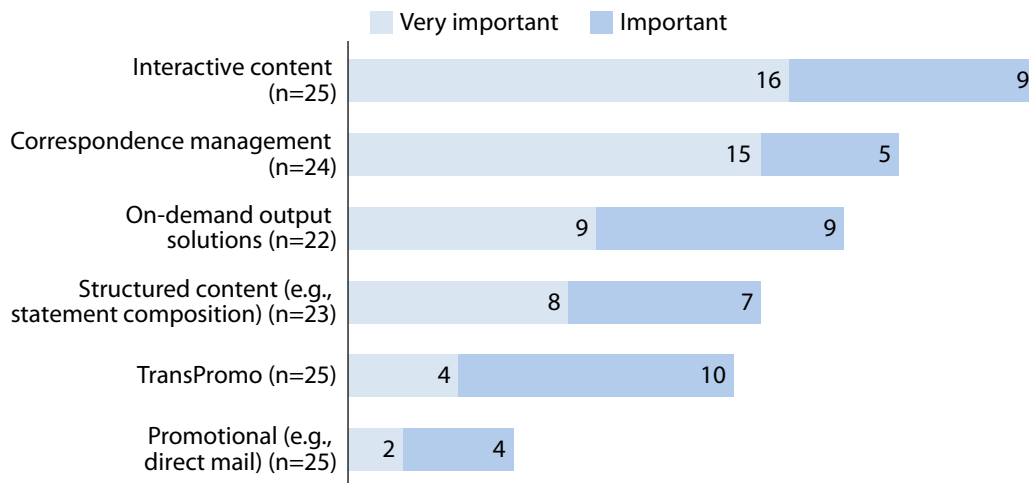
- **Deliver interactive content to customers.** Interactive content ends up in front of customers as completed agreements, correspondences, account opening materials, regulatory filings, or promotional pieces. Several enterprises we contacted were upgrading their DOM technology to provide business users with more control over changes to templates and authoring workflows. Sixteen of 25 respondents rated interactive content as very important — more than either structured or on-demand segments.
- **Raise the bar for on-demand output.** The primary driver for the on-demand segment is keeping up with the increasing pace of business communication. Customer interaction is shifting to the Web; email; self-service; and Web 2.0 technologies, such as blogs.³ Customers will shortly expect real-time turn around on requested documents. Interviewees don't believe they're ready for on-demand output today, yet 18 of 25 companies see increased investment in on-demand output applications as very important or important.
- **Achieve the dream of multichannel consistency.** Communications sent to a customer should be consistent visually (in terms of the usage of logos, images, and other brand elements) and contentwise (such as the degree of personalization, language, and contact information).⁴ This is true whether it is received via email or regular mail, fax, or voicemail. Marketing organizations have made the multichannel customer experience a top priority, and they will push I&KM pros to consolidate the technologies used to support content's delivery across individual channels.⁵ Fifteen of 25 respondents rated treating customers in a consistent manner across channels as an important driver for DOM.
- **Mine transactional content for persuasive gold.** Companies want to increase the amount and quality of marketing messages on statements, bills, and other transaction documents. Why? Customers open these items at a greater rate than other direct mail pieces. TransPromo documents put marketing messages (the more personalized the better) on transactional statements. Despite strong interest for years in TransPromo, it lags behind other areas of DOM. Yet more than one-third of 25 responding companies view it as important. The difficulty of changing mature transactional apps — such as statement presentment and archiving applications — remains a barrier to TransPromo development.

- Get rid of a big headache — aging structured output systems.** Many structured DOM solutions have worked very well for years. So well, in fact, that they have not been upgraded or modified since their initial implementations. IT resources often don't want to touch these systems, fearing they'll get lost in highly customized code or break aging architectures. The majority of our respondents, 22 of 25, cited trepidation about new DOM software systems as an important or very important hurdle in developing an enterprise DOM strategy.

Figure 2 Reason For And Type Of DOM Investment Varies

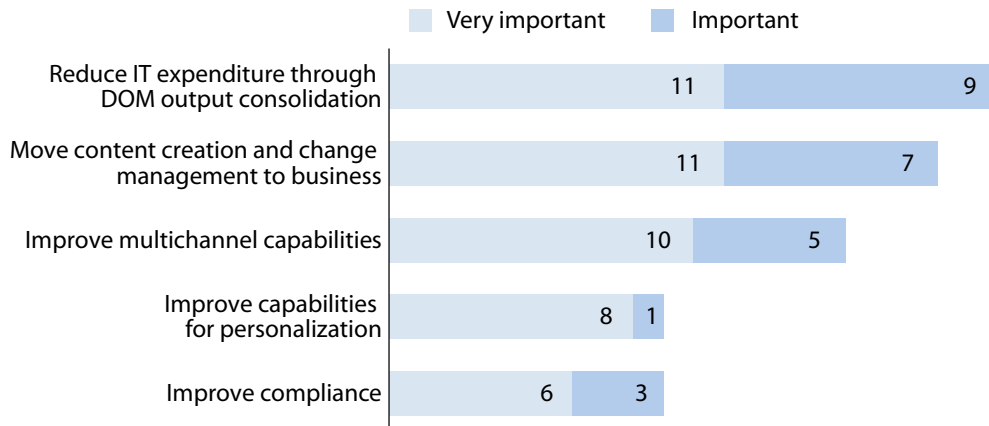
 A spreadsheet with additional data is available online.

2-1 “How important are the following application categories in driving your next investment in document output management?”



Base: IT decision-makers

2-2 “How important are the following business drivers to further document output management investment?”



Base: 25 IT decision-makers

... But Lack Enterprise Strategies For DOM

Only three of the 24 IT decision-makers Forrester surveyed had an enterprise output management strategy (see Figure 3). DOM is about where ECM was a few years ago. Firms had separate and often incompatible solutions for many content management functions — capture, electronic forms, repository, records management, and workflow. But since then, firms have begun to install ECM suites. DOM will follow a similar path, and over time it may be caught up in the ECM suite push (see Figure 4). Our interview findings show that:

- **Point solutions dominate.** In all cases surveyed, output management solutions were developed to solve specific communication problems. As a result, the average number of output management solutions per company was six — one company had 18. And not surprisingly, there is little integration among them. Scattered point solutions are a barrier to treating all customers in the same way, with increasing quality over time. The large number of point solutions was a barrier to deploying an enterprise DOM. (see Figure 5).
- **Few take DOM strategically.** Consolidating DOM solutions is part of what is needed for consistent personalized and branded multichannel communication. One large travel company is already there. It established a DOM center of excellence, which led to an enterprise output management capability, one that supports all content types. Today — millions of travel itineraries are sent annually — 90% are through email and 10% through print. The effort (which took five years) saves millions of dollars annually — with a long list of benefits to customers.
- **Most want to get to “straight through” DOM.** Enterprises want to link DOM with transaction systems, core enterprise apps, and message and event-based services. Straight-through and on-demand processes for in- and outbound content are the focus as customer interaction shifts to email and the Web. Straight-through DOM solutions accept these inputs and create content in real time. For example, several enterprises had integrated DOM with enterprise resource planning (ERP) solutions. These enterprises can send invoices, bills of material, material safety data sheets, and bills of lading without human intervention at the required step in the transactional workflow.

Figure 3 Organizations Struggle With DOM Strategy

“Does your organization have a document output management strategy?”

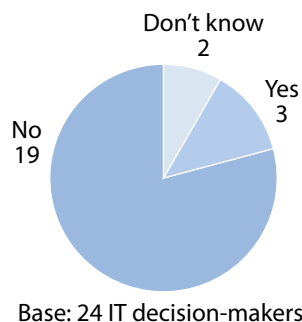


Figure 4 DOM Follows ECM Path To Adoption

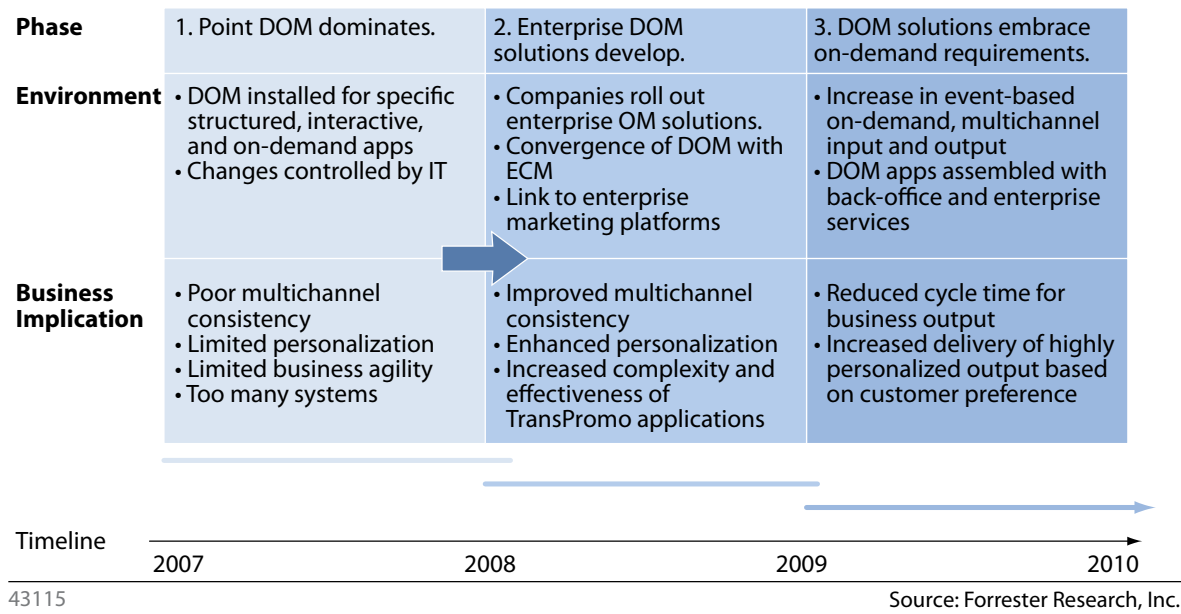
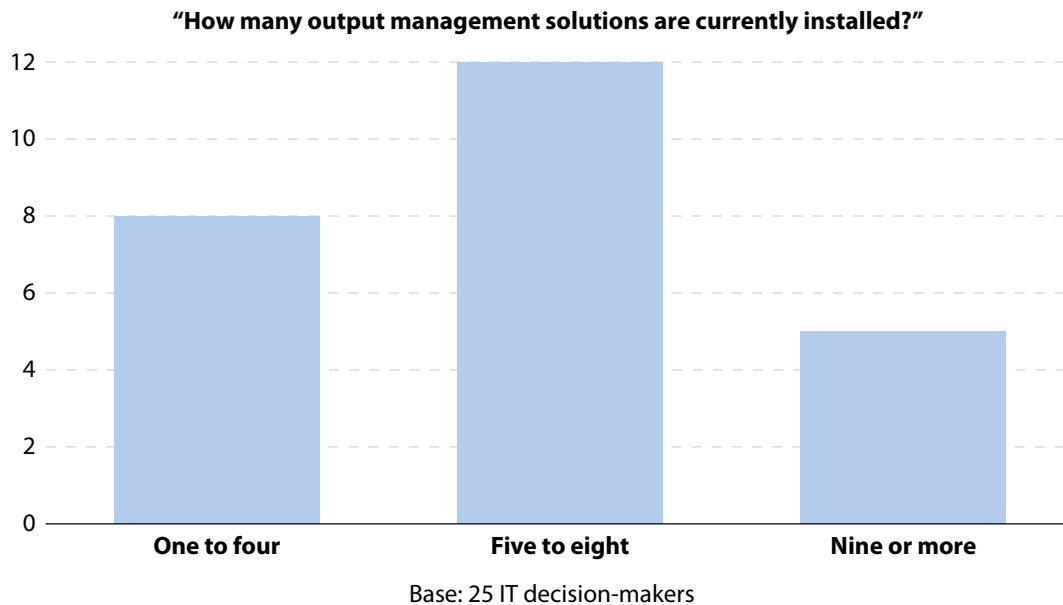


Figure 5 Enterprises Have Multiple Point Solutions

A spreadsheet with additional data is available online.



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Source: Forrester Research, Inc.

VENDORS FOCUS ON INTERACTIVE CONTENT WHILE EMBRACING ECM

Driven by the market's customer experience demands, DOM vendors will focus on the interactive segment, take advantage of established content management infrastructures, and link to enterprise marketing platforms. Postal rate changes — like shape-based-pricing — will accelerate TransPromo applications. More specifically, we see DOM vendors investing their resources to:

- **Turn to interactive output to stay ahead.** While structured output solutions still have plenty of runway, the real growth will be driven by TransPromo needs and high-value color document apps such as financial statements for the affluent investor. Interactive content needs will drive innovation in the DOM market. Vendors will battle each other over who has the best tools supporting interactive content. Those with the strongest interactive content tools have the greatest chance of securing their position as an enterprise's strategic DOM technology.
- **Converge with BPM and ECM.** BPM looks at business processes as they cut across functional units within the organization and provide value to customers from an end-to-end perspective. DOM and BPM go hand-in-hand for organizations moving to address interactive and on-demand output needs as business processes drive the delivery of content. And DOM technologies will increasingly be tied to the ECM products that manage and store the branded images, approved documents, clauses, and associated content used in interactive and on-demand output applications. This growth in interactive and on-demand needs will also help fuel convergence of BPM and ECM suite technologies.⁶
- **Extend their reach through enterprise marketing platforms.** Marketing drives a significant amount of structured (TransPromo), interactive, and on-demand output. Database services, interaction management, marketing resource management, marketing asset management, and campaign management will continue to be used by marketers to answer questions such as, "How do we target new customers to increase revenue?" and, "How effective are our various marketing campaigns and how can we run them better?" And I&KM pros supporting their marketing will push their DOM tools to access the metadata contained within these marketing systems to help combine marketing strategy with marketing execution. Enterprise marketing platform vendors such as Aprimo, Oracle (Siebel), and Unica will establish ties with leading DOM vendors to help ease integration concerns.⁷
- **Capitalize on postal reform.** Systems have a hard time automatically sorting 9 inch x 12 inch envelopes, compared with smaller and thinner first-class envelopes that fly through sorting machines, which has driven the US and most of the West to move to shape-based pricing. This means that to shift volume, postal rates will reflect — to a greater degree — the size of the mail being sent, not just its weight or delivery terms. So rates for 9x12 envelopes, for example, will go up, while the cost of the second ounce of first-class letters will be lowered. Work streams that use expensive equipment change slowly, but over time, "shape-based" rate structures will tip the scales toward TransPromo documents and away from larger standalone marketing material.

Vendors Address Structured, Interactive, And On-Demand Categories

DOM products include enterprise-level solutions that potentially can support all three content areas. Others provide strong support for one or two of the three content areas. There are many strong solutions in this market. Some of the leaders are highlighted below that address the structured, interactive, and on-demand segments:

- **Structured output.** Most of the solutions on the market are mature products, originally designed to address structured output needs. The vendors have evolved their products by adding support for additional printers and data streams. Firms like Document Sciences, Exstream, Metavante Pitney Bowes's Group 1, Skywire's DocuCorp, and StreamServe will continue to serve this market segment.
- **Interactive output.** Document Sciences, Exstream, and StreamServe all have strong new offerings for interactive content. Adobe will appeal to many customers with its full life-cycle suite. And fast-growing companies are making inroads by specializing on interactive content. GMC focuses on the rapid development of interactive apps for promotional material. A strong visual design front end with the ability to incorporate complex variable data has been its sweet spot. Thunderhead has focused on the user experience combined with the strongest XML approach.⁸
- **On-demand output.** Software companies equipped for on-demand output come from diverse backgrounds. For example, Esker developed DeliveryWare for SAP, which tightly integrates with SAP for fax, print, and email management. HP's Output Server product will focus on the on-demand segment, leaving — for now — the structured and interactive segments to others. Adobe's strong credentials in forms processing and rich Internet applications for customer self-service will make it a strong player in the emerging on-demand segment. Xerox's XMPie provides advanced Web-to-print applications to support marketing professionals. Several DOM suppliers from the structured segment have also built on-demand solutions. Group 1's DOC1 On-Demand Edition provides the same authoring environment to compose email as structured or interactive content.

RECOMMENDATIONS

DOM NEEDS ATTENTION — NOW

As DOM slowly emerges from the back office, I&KM pros need to take a serious look at how they can leverage this technology to improve customer experiences and business processes. To begin that re-evaluation, I&KM professionals should:

- **Inventory current output management tools and applications.** Before you select that next DOM solution, figure out what you have. Align the apps and tool sets you have with structured, interactive, and on-demand categories to help clearly identify and segment your current inventory.
- **Make plans for an enterprise DOM.** Segment the DOM needs in your organization and provide a package of capabilities for each content area — such as interactive content solutions to support correspondent management and negotiated documents, or a structured content solution for all transactional documents. Reduce the number of point solutions and look to build a DOM infrastructure for interactive and on-demand apps.
- **Work to align marketing and business units with IT.** Organizational perspectives often pit IT against marketing. The former is wary of change to aging and mission-critical structured apps, while the latter wants to change everything — and do it today. To jump-start strategy development, pull together the IT and business stakeholders who have an interest in a DOM strategy. Invite strategic vendors to present their DOM strategies to the team.
- **Balance application requirements with DOM architecture.** We know the importance of architecture, but often architecture becomes secondary to time when implementing in the DOM world. For DOM to be effective for interactive and on-demand content — which require working with a diverse set of apps — architecture, standards, and integration capability will be paramount.

WHAT IT MEANS

I&KM PROS MUST DRIVE HOW ENTERPRISES THINK OF DOM

Over the next three years, powerful, transformational output management platforms will evolve. They'll be built on a foundation of advanced authoring, workflow, business rules, integration with enterprise marketing platforms, and service-oriented architecture (SOA). Enterprises that maintain point solutions without these foundational elements will struggle to meet emerging customer experience expectations for interactive and on-demand output and linkage to key marketing metadata. I&KM pros can ease their enterprises' transitions to these evolving platforms by driving how their organizations think of DOM — not as a back-office function, but as important software helping to improve the customer experience.

SUPPLEMENTAL MATERIAL

Companies Interviewed For This Document

Adobe Systems	Group 1 Software
Document Sciences	Hewlett-Packard
Esker	Metavante
Exstream Software	StreamServe
GMC Software Technology	Thunderhead

ENDNOTES

- ¹ DOM straddles persuasive and transactional content in Forrester’s content framework. Persuasive-content-centric applications combine enterprise content management technologies like Web content management (WCM) with complementary technologies like business process management, personalization, campaign management, and multichannel delivery to help enterprises meet their customer experience needs. Transactional content is provided usually as part of an established service relationship. For an in-depth description, see the December 21, 2005, “[Transactional, Business, And Persuasive Content: A Better Way To Look At Enterprise Content](#)” report.
- ² Persuasive content is developed by companies to influence external behavior. DOM is best viewed as a set of tools to support creation of persuasive content. For more information, see the December 7, 2006, “[Use Persuasive Content To Improve The Customer Experience](#)” report.
- ³ Customers are beginning to transact business through alternate channels using Social Computing and Web 2.0 tools. For a discussion of Web 2.0 and its effect on customer interaction, see the February 20, 2007, “[Trends 2007: eCommerce And Online Retail](#)” report.
- ⁴ Forrester evaluated multichannel experiences at 16 firms — four large credit card issuers, four consumer electronics retailers, four PC manufacturers, and four wireless providers. Forrester reviewed each firm’s Web site, interactive voice response (IVR), phone agents, and email service, as well as the experience users have when cutting across those channels. Consistency of information and language across channels was one of the criteria used to rate the cross channel experience. For more information on cross-channel best practices, see the February 16, 2007, “[Best And Worst Of Cross-Channel Design, 2007](#)” report.
- ⁵ The online customer experience and the multichannel experience are top initiatives of marketing organizations. For more detail on what marketing professionals see as challenges, see the April 26, 2007, “[Marketing Technology Adoption 2007](#)” report.
- ⁶ Forrester interviewed 15 user companies with experience in BPM suite implementations and uncovered vital best practices for any organization embarking on a BPM initiative. Our advice falls into three major categories: upfront planning, team structure, and technology best practices. See the January 12, 2007, “[BPM Best Practices For Process Professionals](#)” report.

⁷ Document output management is becoming more closely linked with enterprise marketing platforms. For a description of enterprise marketing, see the May 7, 2007, “[The Enterprise Marketing Software Landscape](#)” report.

⁸ Vendors take different approaches to XML for DOM. While all have “XML support,” this generally means being able to convert content to an XML format. Thunderhead uses XML templates with XML content maintained throughout the workflow. Vendors with less XML support point to performance issues with XML. Advantages identified by Thunderhead include the separation of content from presentation that creates efficiency for multichannel output. In some systems — without XML — templates are “channel-specific,” creating many more templates to be maintained.

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