INTRODUCTION: THE BUSINESS PROCESS AUTOMATION GAP

The past two decades have seen broad-based adoption of enterprise resource planning (ERP), human capital management (HCM), supply chain management (SCM), customer relationship management (CRM), and other enterprise applications that constitute the organization's mission-critical "systems of record" today.

These enterprise applications have significant "automation gaps," however. They manage the processes that are driven by the enterprise's transactional data — that is, the data that fits neatly into the rows and columns of a relational database — but they typically don't manage:

- Processes that are driven by enterprise content — that is, by the information contained in the documents that the enterprise exchanges with its customers, partners, suppliers, employees, and other stakeholders
- Processes that are driven by people — that is, the ad hoc, collaborative business processes that involve individuals

Broader end-to-end business processes, such as procure to pay, order to cash, hire to retire, market to order, issue to resolution, and so forth, all include document- and people-driven processes. And just as a chain is only as strong as its weakest link, these end-to-end business processes are only as automated and optimized as their least automated components. Gaps in automation undermine overall business process efficiency, visibility, quality, consistency, and control.

Document- and People-Driven Business Processes

Take invoice processing, for example. Invoices arrive on paper, via fax, as documents attached to emails, and in other electronic formats from hundreds of suppliers, all in different layouts. Typically, data entry staff manually keys this information into the ERP system (a document-driven process). Once the information is entered, there is a quality control process, and then invoices are routed for approvals; exceptions are flagged for follow-up (an ad hoc, people-driven process). Lack of automation creates delay, increases errors, and limits the organization's visibility into its overall accounts payable process — adversely impacting its ability to manage cash flow.
Consider the customer onboarding business process. In many organizations, applications for new accounts are keyed in manually (a document-driven process). There is an approval process that requires exception handling (an ad hoc, people-driven process). Once the new customer’s application is approved, staff manually assembles a welcome kit, pulling content and data from a variety of different systems (another document-driven business process). The manual processes are time consuming and expensive; paperwork often goes missing as it moves from desk to desk, and people make mistakes; call volumes increase as customers phone in to ask about the status of their application, and staff has to call them back because there is no system of record that can provide that information. The organization risks losing customers to competitors that can offer better service.

There are dozens of similar scenarios in the typical organization. Some are “horizontal” line-of-business processes such as sales order and remittance processing in the accounting department, employee information management in the human resources department, contracts in legal, proposals and quotations in sales, and so forth. Others are “vertical” business processes such as admissions, grants, financial aid, and student records in higher education; entitlements and case management in government; admitting and patient records management in healthcare; change order management and warranty claims management in manufacturing; and claims processing and underwriting in insurance. In all of these scenarios, lack of automation of document- and people-driven processes negatively impacts the organization’s overall effectiveness — increasing costs, reducing overall process visibility and business agility, and increasing business and compliance risk.

**Convergence of BPM and ECM**

Today, organizations are beginning to automate their ad hoc and document-intensive business processes using business process management (BPM) and enterprise content management (ECM) software. The combination of these two technology stacks — used in conjunction with enterprise applications — enables the organization to fully automate its business processes end to end and address the automation gap.

From a market perspective, the convergence of BPM and ECM is very apparent today: Almost all of the leading ECM vendors have acquired BPM companies and are integrating the two technology stacks to deliver dynamic case management solutions that make it easy for customers to rapidly and iteratively automate their document- and people-intensive business processes.

This converged world also requires changes in thinking on the part of customers, as BPM and ECM have historically been quite separate domains. Let’s start with content.

**Rethinking Enterprise Content Management**

Enterprise content management is about managing enterprise information through its life cycle — safeguarding critical information, providing access to people depending on their roles and responsibilities, applying records and retention policies, and so forth — and making the information available enterprisewide in the context of one or more business processes. Unlike “document silos” attached to individual applications, enterprise content can be integrated with all of the organization’s applications to facilitate cross-departmental business processes.
Users must be able to easily find and view related documents from the applications and collaborative tools they use every day — without needing to learn and use different systems and user interfaces. Records in enterprise applications must link directly to relevant documents in the ECM system so that users can call up related information with a single click and without needing extensive training.

Often, the first step to integrated process and content management is replacing one or more paper-based processes with image-enabled workflows. Capture, imaging, and document generation are all critical capabilities for automating the organization’s paper-intensive business processes. Higher-volume processes benefit from advanced data capture solutions, which can eliminate most or all data entry tasks. Outbound processes can be fully automated using document output management solutions.

Generally speaking, content management practitioners tend to think of content management as the center of gravity, with process management (typically workflow) as a supportive capability. Content management staff needs to start thinking more about process and the importance of optimizing the overall business process in which content plays a part.

Focus on Business Process Management and Optimization

BPM solutions enable process designers to orchestrate and manage interactions between people, software systems, and content and data, in conjunction with business rules and policies. They can address people-centric as well as system-centric processes (for example, straight-through processing). We often hear about the challenges of modifying existing enterprise applications to add more functionality or business rules: Changes to systems of record frequently require recertification of the application stack (not to mention significant regression testing and, potentially, user retraining). BPM solutions can extend existing investments in enterprise applications without requiring changes to them.

Generally speaking, BPM practitioners view process as "king" and consider content merely one type of "container" that a business process might manage. They need to learn more about the value of enterprise content management, capture, document generation, and search.

Dynamic Case Management: More than the Sum of the Parts

Both practices are important to the enterprise, but the two technology stacks come together in some new and very powerful ways when we begin to think about dynamic case management. Although there are certainly use cases for content that are orthogonal to process, and use cases for process that are orthogonal to content, the lion's share of unautomated or underautomated processes in the enterprise today maps very well to a dynamic case management paradigm. Simply put, dynamic case management manages content objects (such as document folders or dossiers) through the various stages in a business process (that is, through a series of steps to completion that typically involve notifications, reviews, and approvals and other people-centric interactions). Exception handling is a form of case management, and so are claims processing, patient care, university admissions, and new employee onboarding.
**Emarking on the Journey to Integrated Process and Content Management**

The good news is that organizations can adopt integrated process and content management in phases and realize a compelling return on investment (ROI) at every step of the way. As IDC research shows, business process automation efforts often deliver ROI in less than six months.

Once the business process is automated, there is additional ROI opportunity: Business process mining enables the business analyst to visualize and assess the effectiveness of the overall process holistically over time, helping identify bottlenecks and prioritize process improvements. IDC believes the use of business process mining tools for process improvement will become an increasingly important focus in the enterprise over the next few years as organizations progress with their business automation initiatives and seek to instill a culture of ongoing process improvement.

The rest of this study presents findings and insights from a recent survey of Perceptive Software customers who have begun this journey.

**CUSTOMER JOURNEYS TO INTEGRATED PROCESS AND CONTENT MANAGEMENT**

As past IDC research shows, customers typically begin their journey to enterprise process and content management by automating specific business processes in one or more departments. Once these initial implementations are successful, customers expand the scope to additional use cases, ultimately broadening deployment to address the process and content management needs of the enterprise as a whole. The phased approach mitigates risk and delivers incremental ROI at every stage of investment; it also enables the organization to leverage lessons learned in subsequent deployments and establish best practices.

To gain insight into how Perceptive's customers are progressing along the journey to enterprise process and content management and ascertain the business benefits they are realizing from their investments in Perceptive's solutions, we invited a representative sample of Perceptive's customers to participate in an opt-in Web survey (see the Methodology section later in this study).

**Beginning the Journey: Initial Application**

We began by asking our survey participants about the scope of their initial investment in Perceptive’s software (see Figure 1). Ten of our 16 respondents acquired Perceptive software to automate a specific business process. Three of our respondents initially purchased Perceptive to automate multiple business processes, and three intended to deploy Perceptive as their ECM solution companywide.
High-volume paper-intensive business processes typically make good initial targets, and our respondents generally tackled these processes first. Seven of our respondents started out with invoice processing. Not surprisingly, all three of our insurance respondents began with claims processing. Other popular initial use cases included customer onboarding, admissions and student records, patient records management, employee information management, administrative and internal services, sales order processing, and fundraising.

Next, we asked our respondents about their buying criteria (see Figure 2). Ease of use ranked first on the list, with 100% of respondents rating it important or very important. Scalability, ease of implementation, and ease of integration with enterprise applications scored almost as high, with affordable cost an important criterion for four out of five respondents.
Perceptive is clearly fulfilling users’ expectations in regard to product functionality: In response to an open-ended survey question asking what customers believe are Perceptive’s strengths, users commonly cited ease of use, scalability, ease of implementation, and ease of integration as key attributes of Perceptive's solution.

Other key criteria included capture (69%), search across multiple document types (63%), and records management and retention (44%). Perceptive offers robust capabilities in all of these areas today (see the section titled Perceptive’s Solution later in this study).
Further Down the Path: Expanding Use Cases

Perceptive's customers very quickly expand their use of Perceptive's solutions to new applications. We asked our respondents how they would characterize their current deployment of ImageNow. Only three said their use of ImageNow was still limited to automating a single business process (and two of those three are brand-new customers using Perceptive for a year or less). Nine respondents have automated several business processes, and four now consider Perceptive their enterprise content management system (see Figure 3). Clearly, Perceptive's ease of use, ease of implementation, ease of integration, and scalability are important factors driving expanded use.

FIGURE 3
Scope of Current Deployment of Perceptive Software

Q. Which of the following best describes the scope of your investment to date in Perceptive?

As usage progresses, the variety of use cases proliferates and we see Perceptive adopted in new departments within the organization. For example, a midsize healthcare provider that started out with patient records management expanded its deployment to encompass invoice processing, customer onboarding, and employee information management — all within five years.

Grand Rapids Community College (GRCC), profiled later in this study, began with student records and invoice processing. It has implemented Perceptive in at least a dozen areas in the three years since that first application was deployed, including financial aid, admissions, the registrar's office, purchasing, and — more recently — academic departments.

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International Medical Group (IMG), also profiled later in this study, started with claims processing and then moved into underwriting, large case management, invoice processing, and other areas. Today, Perceptive is deployed enterprisewide at IMG.

Several customers began with invoice processing and then expanded into HR, including payroll and benefits. Other follow-on business processes cited by our respondents include contract management, additional processes in finance, purchase card processing, customer service delivery, and various administrative workflows.

The diversity of customers’ Perceptive applications is telling. Clearly, customers need a platform that lets them cost-effectively automate the myriad document-centric, content-intensive business processes that have remained unautomated for far too long. They need a platform that puts content to work in the context of the business process — one that is quick to deploy and easy to use.

**Expected Business Benefits**

We asked our survey participants what the key business drivers were for their investment to date in Perceptive Software (see Figure 4). Fully 88% of our respondents cited reducing or eliminating paper and improving process visibility as important/very important. Other key business drivers for implementing Perceptive included improved user productivity, faster turnaround, reduced costs, and reduced errors. Generally, survey respondents gave more weight to business drivers that are related to hard-dollar savings.
Perceptive’s customers are clearly realizing their goals. Overall, Perceptive has brought our survey respondents a 71% reduction in the amount of paper they need to deal with (see Figure 5). They have succeeded in bringing their content under control (establishing a repository of record) and have achieved a 65% improvement in process visibility — a clear reflection of the need to combine process and content to achieve business benefits. Customers also report big improvements — ranging from 40% to 50% — in turnaround time, customer service, compliance, risk mitigation, and the rest of our metrics.
BUSINESS BENEFITS TO DATE FROM DEPLOYING PERCEPTIVE SOFTWARE

Q. How would you quantify the business benefits you have realized from your investment to date in Perceptive? What percentage (%) improvement have you obtained in regard to:

- Eliminating/reducing paper
- Providing a repository of record
- Improved process visibility
- Faster turnaround
- Improved customer service
- Improved compliance
- Mitigating risk
- Improved collaboration/user productivity
- Increased business agility
- Reduced costs
- Reduced errors

n = 16
Source: IDC's Perceptive Software Customer Survey, April 2012

IMPORTANCE OF ENTERPRISE APPLICATION INTEGRATION

A key theme running through respondents’ comments — and one we have alluded to in our observations about ease of integration — is the importance of integrating Perceptive with the (broad) variety of business applications in the typical organization.

Survey respondents use a diverse mix of enterprise applications with Perceptive, including JD Edwards, Lawson, SAP, PeopleSoft, Microsoft Dynamics, and dozens of others. Some of these are horizontal (cross-industry) applications, for example ERP and HCM systems; others are industry specific. Customers also integrate Perceptive with their custom applications. It’s the ability to integrate Perceptive’s process and content management solutions with all of the organization’s enterprise applications that makes Perceptive so compelling. Two-thirds of our respondents have integrated Perceptive with at least two different enterprise applications. A third have integrated Perceptive with three or more enterprise applications, and 19% have integrated Perceptive with four or more enterprise applications (see Figure 6).
Enterprise application integration is an ongoing activity as customers continue to expand their Perceptive deployments: Most respondents (two-thirds) have plans for further integrations. Perceptive’s customers also place a high value on ease of integration: In another survey question that explored customer attitudes about content and process management, 88% of respondents agreed/strongly agreed that integration with enterprise applications is key to putting content in context (see Figure 7). Perceptive’s strengths in ease of integration — without requiring programming — are clearly well aligned with customer needs.
FIGURE 7

Attitudes About Enterprise Content and Process Management

Q. Please indicate your level of agreement with the following statements:

Integration with enterprise applications is key to putting content in context

ECM is a strategic platform for us

We have many unautomated processes that could benefit from ECM and BPM

We still have many paper-based processes that require better automation

Our investments in ECM/BPM have brought us above-average ROI

BPM is key to giving users greater control over their business processes

(% of respondents who agree/strongly agree with the statement)

n = 16

Source: IDC’s Perceptive Software Customer Survey, April 2012

Other responses to this question also reveal a strong commitment among Perceptive customers to an enterprise approach to content and process management: Three-quarters of respondents agreed/strongly agreed with the following statement: “ECM is a strategic platform for us.”

At the same time, the journey to enterprise process and content management is still unfolding: Three-quarters of our respondents agreed/strongly agreed with the following statements: “We have many unautomated processes that could benefit from ECM and BPM” and “We still have many paper-based processes that require better automation.”

Nevertheless, customers are convinced that the ROI is there: 69% of respondents agreed that their investments in ECM/BPM have brought them above-average ROI, and 63% believe BPM is key to giving users greater control over their business processes. At a strategic level, these responses indicate very strong customer endorsement of Perceptive’s fundamental value proposition and its product direction and validate the wisdom of recent acquisitions.
Benefits of Content in Context: In Customers' Own Words

Anecdotally, users were keen to share some of the benefits they have realized from implementing Perceptive. In response to an open-ended question seeking examples of ROI, customers offered comments such as:

- "We have improved our time to pay invoices by 28 days on average."
- "We implemented AP with an ROI of three months due to the reduction in administrative hours needed in the field to process invoices."
- "We have improved workflow among our AP, purchasing, receiving, and biomedical departments. AP gained complete visibility around invoices — from receipt to processing — allowing management to better monitor invoices for timely processing."

A common theme was the reduction in cycle time and attendant benefits in improved quality of service to customers, partners, suppliers, students, and employees:

- "Expenses are paid within seven business days now, as long as they are submitted accurately. It used to take a lot longer to get reimbursed."
- "We can now share electronic patient chart across departments to streamline patient care."
- "We have automated our HR processes utilizing workflow to increase efficiency and obtain a higher quality of employee service."
- "We've cut two to three weeks off the time it takes to pay claims, and we have the information we need to give customers the status of their claims when they call us."

Several respondents cited improved process visibility and significant savings in staff time chasing down paperwork:

- "We have much greater visibility into prescriptions and other patient information across all offices. No more calls between different sites — the "can you please check for me...." — which involved multiple employees in the past."
- "Perceptive has dramatically reduced the time it takes to retrieve student documents and employee documents."
- "AP is wasting far less time chasing department heads for approvals to pay invoices, as there is no longer any question whether or not an invoice was submitted for approval or whether it has been approved."
- "Paperwork is no longer lost, and we have much more visibility due to time tracking in the workflow history of a document."

Several respondents praised Perceptive's ease of use, ease of integration, and scalability (which is critical for enterprisewide deployment):
"We consolidated many different imaging systems into a single enterprisewide content management solution with Perceptive and were able to seamlessly integrate Perceptive into our core applications."

"It's easy to use, so it's easy to get buy-in from required participants. Integration without programming is also a big plus."

"Though not included in our initial business case, scalability has been a significant benefit realized to date."

Eliminating paper is another key benefit customers have realized from implementing Perceptive:

- "We were able to considerably reduce paper file storage before moving to new office space."
- "We implemented HR, allowing space to be retrofitted to hold associates. We're implementing legal, properties, and the construction department to complete our enterprisewide paperless solution."
- "Customer service is now 100% paperless."

Finally, Perceptive is enabling organizations to reengineer their business processes. This is an area where IDC believes Perceptive Software and its customers have significant opportunities going forward, as Perceptive now offers a complete business process management suite:

- "Workflow enables us to outsource certain services — e.g., payroll — to India, reducing costs."

**Future Plans**

Our survey respondents have a long list of additional business process automation projects queued up that will leverage Perceptive's broader process and content management capabilities. Several plan to add intelligent capture to their existing deployments. Others are expanding deployment of Perceptive to new departments or new use cases in existing departments to "complete the full enterprisewide rollout" or tackle "other large-scale workflow/BPM processes." Some cited electronic forms and invoicing projects; others are planning integrations with additional enterprise applications and collaboration systems such as SharePoint. Some are looking forward to leveraging Perceptive for digital assets.

A large healthcare provider gave us a list of at least seven upcoming Perceptive projects, including integrations with the organization's new EMR and HIS systems; HL7 applications; importing images from its home healthcare system; deploying new applications for physician completion, electronic signatures, and tasks; expanding out to Patient Accounting to automate remittance and correspondence processes; further integration with SAP for better tracking invoices; and intelligent capture for accounts payable. Customers' responses underscore the broad applicability of Perceptive Software solutions to the very diverse array of business process automation needs in the organization where process meets content.
**Best Practices and Advice for Other Users**

Enterprise content management deployments have historically been fraught with challenges around customer adoption, cost overruns, and a long time to value. We heard from several of Perceptive's customers that a winning strategy is an incremental one that delivers value at every stage. One customer counseled: "Start with one department, make that implementation a success, and then let word of mouth create demand for additional implementations." An entertainment customer told us: "I tried to sell a full enterprisewide solution, but the dollar amount was too much to swallow, so I chose one department [invoicing] that had the best ROI to start with. Once we got one department rolling, every department wanted to jump on board."

It can be challenging to ask people to change the way they do things each day, and some customers reported it was a struggle to get people on board in a digital environment. Users need to be prepared for change management issues. After all, it's not just about automating existing processes — it's about process improvement. Several of Perceptive's customers cited resistance to change as an obstacle. A clear understanding of the implications of workflow changes across the organization is important, as is communication. Understanding the business process is key. One customer wrote: "Having detailed knowledge of the processes, steps, and time-consuming workarounds or manual work required creates the best opportunity for cost savings, and that makes it easier to get the buy-in of the users." Another advised: "Make sure you have up-front support on business process and internal change management." That said, one respondent offered: "It really is possible to change the way that people work. People are willing to follow workflow queues and follow regular rules more readily than we initially thought."

Executive sponsorship is a huge accelerator. An insurance executive advised: "Start small, but don't start until you've fully committed the resources necessary to the long haul of implementing enterprisewide." Another suggested: "It helps if there's support from the business from the beginning. You need at least one champion to get an ECM project in the door." A third told us: "Our project was initiated by upper management to aid in implementing disaster recovery to reduce cost of paper storage and handling and increase productivity by getting important documents to the right people at the right time and multiple departments at the same time." A fourth advised: "It's important for leadership to be involved in the decision making so they completely buy in to the idea of an ECM product as a strategic initiative. That greatly helps encourage buy-in down to the user level. While many users gladly welcome an ECM solution to automate their paper processes, some users are much harder to pull away from paper." Another suggested: "The key to success is having higher management on board."

In our experience, it's usually easy to justify the investment based on hard-dollar costs alone. In the words of one Perceptive customer, "Make the 'cost savings' justification simple. Our business case was straightforward, and cost savings were easily demonstrated — and realized."
PERCEPTIVE'S SOLUTION

Perceptive Software (www.perceptivesoftware.com), headquartered in Shawnee, Kansas, with offices in Europe, Asia, the Middle East, and South Africa, is a division of Lexmark International Inc. (NYSE: LXK), a $4+ billion global supplier of printing and imaging products, software, solutions, and services. Perceptive’s process and content management solutions help organizations improve the efficiency of their document-intensive business processes. The company's products are used by customers from every industry in more than 30 countries around the world.

Perceptive offers a comprehensive portfolio of solutions that span enterprise business process and content management.

BUSINESS PROCESS MANAGEMENT

Perceptive offers a complete BPM suite from the acquisition of Netherlands-based Pallas Athena. Perceptive BPM provides process design and orchestration; process mining, visualization, and simulation; case management; and business activity monitoring. Perceptive BPM helps organizations assess past business process performance, monitor current performance in real time, and plan for future needs. Perceptive BPM is readily integrated with customers' existing applications.

- **Process Mining.** Perceptive Reflect provides process discovery and visualization and can be used with any application. Reflect mines the information in system event log files and presents an interactive simulation over a period of time, revealing how processes are actually working and where the bottlenecks are. Using Reflect, organizations can better understand how people and teams work together, identify the root causes of process delays, and uncover potential compliance risks.

- **Business Process Modeling and Documentation.** Perceptive's visual process design tools enable business users to model processes without help from IT. Users can also generate standardized process documentation.

- **Case Management.** Perceptive's solution for case management includes a "case overview" perspective and provides case workers the flexibility they need to intervene in the event of a problem.

- **Business Activity Monitoring (BAM).** Perceptive's BAM capabilities enable process owners to monitor the performance of their business processes, teams, and individual staff members.

ENTERPRISE CONTENT MANAGEMENT

Perceptive's ECM portfolio spans capture and eForms, content and records management, and search and document output management. Known for its ease of use and ease of deployment, Perceptive's ECM solution easily integrates with customers' business applications and other enterprise systems — including business applications from SAP, Oracle, and Microsoft; industry-specific applications; and custom applications — thanks to its patented LearnMode integration technology.
Document imaging, document management, and workflow. Perceptive manages all types of unstructured data — from electronic files to emails, multimedia, XML, faxes, and scanned documents — in a secure, scalable repository. In concert with Perceptive’s distributed capture facilities, users can automatically ingest documents, perform conversions using OCR/ICR, apply barcodes and patch codes, index and apply metadata, and link documents to transactions in other applications so that content is immediately available in context without searching. For content authors, Perceptive provides complete check-in/checkout and version management facilities from popular desktop authoring applications such as Microsoft Office or from SharePoint (via a Web Part). Users can also electronically sign documents. Perceptive’s browser-based document viewers enable access to content in the repository from over the Web, without the need for client-side applications.

Perceptive’s workflow software provides automated monitoring and notifications and manages the distribution of information to work queues. Users can quickly and easily define process steps and routing options based on any set of variables using Perceptive’s visual workflow designer and natural language rules engine. Perceptive Tasks let users create “to do” lists, assign ad hoc tasks, and establish deadlines while enabling the organization to centrally manage privileges, rules, and alarms that apply to multiple queues.

Intelligent capture. The recent acquisition of Brainware, whose Distiller solution Perceptive has resold as IntelliCapture for a number of years, added advanced data capture to Perceptive’s arsenal. Distiller is used in accounts payable and other departments to automatically classify and extract data from documents of all types, including complex forms. Brainware’s patented “learn mode” enables customers to attain a very high rate of “touchless processing” — that is, it can process documents without human intervention. This is ideal in high-volume applications such as invoice processing where users must cope with a tremendous number of different document formats.

eForms. Perceptive eForms provide customizable browser-based data entry capabilities. Perceptive eForms make it easy to collect and manage electronic data, driving workflows and enabling self-service applications on the Web or via portals. Users can create standards-based forms using Perceptive’s built-in design tools or its Eclipse plug-in or using popular Web technologies such as HTML, XSLT, and CSS. Users can automatically link document properties to eForms fields for advanced indexing, attach documents to an eForm, or use formulas and database values to validate, populate, or augment eForm data.

Records and information management. Perceptive’s Retention Policy Manager provides electronic and physical records and retention management — with features for automated disposition, chain of custody, and legal holds — to ensure regulatory compliance and mitigate risk in the event of legal action. DoD 5015.2 and MoREQ 2010 certifications are planned for a future release.

Document creation and output management. Perceptive Document Output Management (DOM), from the Pallas Athena acquisition, enables customers to automate outbound business processes and generate personalized documents.
of any kind. Perceptive DOM enables users to design and generate a wide
variety of document types — such as customer correspondence, quotes and
contracts, customer and employee onboarding packets, explanation of benefits
(EOB) statements, and so forth — for any channel (in print, Web, and other
formats). Documents may be generated via batch, or they can be interactively
customized by staff, depending on business process needs. Automating the
organization's outbound document processes shortens cycle time and improves
customer service; ensures consistency, quality, and branding; and improves
compliance.

- **Enterprise search.** From the acquisition of ISYS, Perceptive offers federated
enterprise search across multiple repositories — including those managed by
other systems (such as SharePoint). ISYS also brought Perceptive a document
filtering solution, as well as deep domain expertise.

**Vertical and Line-of-Business Solutions**

Perceptive also offers out-of-the-box specialized solutions for key markets such as
healthcare and higher education, as well as departmental solutions for accounts
payable and human resources. Perceptive's commitment to this strategy is evident in
the recent acquisition of Nolij Corporation, a provider of content management
solutions for higher education.

**CASE STUDIES: PERCEPTIVE IN ACTION**

To gain further insights into how Perceptive's process and content management
solutions are helping customers dramatically improve the efficiency of their mission-
critical business processes, we spoke in depth with two of Perceptive's customers
about their implementations.

**Streamlining Administrative and Academic Business Processes at Grand Rapids Community College**

Grand Rapids Community College (www.grcc.edu) was founded in 1914 and is the
oldest community college in Michigan. With 1,300 faculty, adjunct, and staff members,
GRCC provides affordable, accessible higher education to approximately 32,000
students during the year via its main campus in Grand Rapids and satellite campuses
in surrounding towns.

We spoke with Nate Hamilton, who joined GRCC two years ago as an enterprise
analyst and is the internal champion for Perceptive. GRCC purchased Perceptive
Software CM in 2009 to automate invoice processing and student records
management. As GRCC was new to Perceptive, it turned to Perceptive's professional
services team for help implementing workflows and integrations with GRCC's
QuickInvoice and PeopleSoft systems.

Building on the success of these two projects, GRCC began to tackle the document
process automation needs in other administrative departments. A little over a year
ago, GRCC implemented Perceptive for the 111 different document types in the financial aid department, which uses PeopleSoft. Once financial aid was up and running, GRCC turned its attention to the human resources department, which required a significant amount of workflow automation for approvals (accomplished using iScripts). The HR deployment is truly enterprisewide — used by every department at the college and in conjunction with multiple business processes, including benefits, payroll, staff development, and so forth.

Today, GRCC has standardized on Perceptive across the organization as its enterprise content management solution, and it is placing a high priority on streamlining and automating its many manual business processes. Requests for new projects come through GRCC’s project management office, which reviews for feasibility. Once approved, projects are prioritized by a cross-organization committee.

New projects currently under way include implementations for student employment services, whose document types are similar to those in HR; student affairs, which is in the midst of converting its backfile; and grants, which tracks donors and submissions via manual processes today. Other groups in the discussion or planning stage include the provost office, purchasing, counseling, and legal.

Use of Perceptive is starting to spread to the academic departments. The music department — the first of GRCC’s academic departments to come on board — plans to digitize and automate business processes associated with correspondence, freshman intake forms, auditions and recitals, letters of recommendation, scholarship forms, and other document types. According to Hamilton, the number of document types in an academic department ranges from 10 to 30, and the music department has about 20. In the music department, GRCC will begin with scanning and digitizing, which will provide retrieval based on permissions, and then in phase two it will move to full-fledged workflow. Hamilton expects other academic departments to jump on board once the music department’s implementation is done, and that means there will be no shortage of new projects for Perceptive: Of GRCC’s roughly 100 departments, the vast majority are academic.

Perceptive’s out-of-the-box integration capabilities have been critical to GRCC’s success. Comments Hamilton, “There's no manual linking: 90% of our documents have a student or employee ID, and the rest of have a project ID. It's all driven off PeopleSoft. Financial aid can use PeopleSoft checklists, and purchasing can create a new record in PeopleSoft as they digitize a document. Similarly, Perceptive updates the invoice information in our AP system.”

Hamilton cites as benefits of deploying Perceptive lower costs, better process visibility, fewer lost documents, a significant reduction in errors (about 30%), and much quicker retrieval. Eliminating all the file cabinets filled with paper has freed up valuable space: File cabinets used to take up about 25% of the financial aid department's total floor space (not counting offsite archives) — enough for three new offices.

Best of all, Perceptive enables GRCC to provide much more responsive service to its students — a 40% improvement overall. Notes Hamilton, “Before Perceptive, staff in financial aid always had to do student callbacks. Now, they can immediately retrieve relevant documents during the call.” Similarly, employee requests used to send staff
running up and down stairs to file cabinets on other floors; with Perceptive, requests that took staff 5–10 minutes to fulfill now take seconds. Hamilton believes that in the future, Perceptive could help GRCC move toward a self-service model for student and employee documents, saving staff additional time.

Hamilton is excited about recent acquisitions and the opportunities they create for GRCC — capture, for example. "We're starting to look more at how we could improve efficiency by automatically indexing documents. It would also improve accuracy. The results Brainware is getting are fantastic, especially on the invoice processing side. If we could take just two or three people out of data entry and put them in student servicing areas, it would have a huge impact on the customer service we can provide to our students. I’m really looking forward to what Perceptive will be able to put out there in the next year or two in the way of a broader ECM solution."

**Streamlining Claims Processing, Underwriting, and Other Processes at International Medical Group**

International Medical Group (www.imglobal.com) provides medical insurance for people who travel or live abroad, including travel insurance, expatriate insurance, international employee benefits, missionary insurance, marine insurance, stop loss insurance, and international medical management services. Founded in 1990 and headquartered in Indianapolis, Indiana, IMG has provided peace of mind and paid the bills for hundreds of thousands of individuals and families in more than 170 countries. IMG is privately held and has grown very quickly over the past 10 years to about 250 employees today.

IMG takes pride in its customer service: Its multilingual claims administrators and customer support representatives around the world process tens of thousands of claims each year and provide around-the-clock service. We spoke with Richard Heilbrunn, director of operations at IMG, to learn how Perceptive Software’s solutions have helped IMG streamline its operations and deliver world-class service.

IMG first began using Perceptive Software about 10 years ago for claims processing, which was a completely manual, paper-based process. IMG's claims examiners had to key in data manually from HCFA and UB forms. For claims requiring repricing, IMG had to hand-separate the forms and courier them to its PPO and then manually process the repricing sheets it received back. The process involved a tremendous amount of time and effort, and it also limited visibility — making it difficult for IMG claims examiners to respond quickly to questions from insureds about the status of their claims.

Perceptive enabled IMG to create a complete electronic record of all information for its insureds — including applications, checks, correspondence, and medical records, in addition to claims and repricing information. Claims examiners have instant access to all of the information they need to adjudicate a claim — without needing to search for it. Multiple people can work on the same record at the same time, and from any location, making it easy for IMG staff around the world to collaboratively address customer needs.
IMG was able to eliminate most data entry tasks by automating data capture, freeing up resources. Notes Heilbrunn, “The new system allowed claims examiners to be examiners instead of data entry clerks. We had 45 people in the claims department and were able to save 12 FTEs.” IMG also moved to an electronic process for repricing, using EDI. Comments Heilbrunn, “It used to take two to three weeks to reprice a claim, creating bottlenecks throughout the organization and resulting in lots of customer service callbacks. Now, we can answer customer questions on their initial call.”

Heilbrunn estimates that IMG realized ROI within 6 to 12 months of implementing Perceptive for claims processing. Building upon that success, IMG implemented Perceptive in additional departments; today, Perceptive is used in nearly every part of the organization and manages terabytes of images.

For example, the premium accounting department uses Perceptive for underwriting. About 80% of IMG’s short-term certificates are generated over the Internet. IMG creates TIFFs of the applications for coverage and stores them in Perceptive Software CM, automatically linking them to the corresponding insurance certificates that are generated at the time of purchase. In the past, IMG staff had to key in all of the data manually.

IMG contracts with other third-party administrators (TPAs) to manage their large cases for them, essentially providing outsourced back-office services, and the large case management department at IMG is also using Perceptive. IMG integrated Perceptive with CaseTrakker Dynamo as well as its proprietary application for policy writing. Documents are automatically linked, enabling IMG staff to view all of the supporting documents related to a particular certificate with one click.

IMG provides stop loss insurance, and its stop loss department has integrated Perceptive with its proprietary underwriting application. IMG has also implemented Perceptive in the accounts payable department, where it is integrated with Microsoft Dynamics. There are still a couple of additional departments to bring on board, such as HR and legal. Notes Heilbrunn, “With those, we’ll have the whole enterprise covered.”

Heilbrunn points to Perceptive’s ease of implementation and integration as key benefits for IMG: “Other ECM solutions were much more difficult to implement, and it would have required significant professional services effort to integrate them with our applications. We realized we wouldn’t be able to control the implementation with a big custom integration component. Perceptive’s LearnMode makes it very easy to integrate Perceptive Software CM into any application. So far, we haven’t found one that took more than half an hour.”

Heilbrunn has high praise for Perceptive’s customer service, noting that Perceptive’s acquisition by Lexmark has enabled it to provide “follow the sun” support: “Now, we can call at any time, and if we need to reboot a server, we can get that done before business opens in the morning.”

Heilbrunn is looking forward to taking advantage of additional Perceptive capabilities, enhancements, and new products. Heilbrunn hopes to implement Perceptive for
records and retention within the next year. The new foldering capability in release 6.7 will let IMG create a folder structure for an insured person with different policy years, making searches within date ranges easier. And as Heilbrunn notes, Perceptive's new process mining capabilities are attractive: "As we implement Perceptive in new departments, and add new applications, we are looking at how we can make the business process more streamlined."

**CHALLENGES AND OPPORTUNITIES**

Since its acquisition by Lexmark two years ago, Perceptive Software has entered a new phase of growth — one that brings significant opportunities and, potentially, some challenges — as the company seeks to expand in multiple dimensions.

From a product perspective, Lexmark is aggressively expanding Perceptive's product portfolio through a mix of targeted, strategic acquisitions and increased research and development spend. Acquisitions in the BPM, intelligent data capture, and enterprise search arenas will help position the company to compete for enterprise content management deals and address the demanding process and content management requirements of larger enterprises. We can expect to see additional acquisitions as it seeks to further broaden its solution footprint.

From a go-to-market perspective, Perceptive is undertaking a major expansion in EMEA, Latin America, and Asia/Pacific — leveraging Lexmark's global resources and infrastructure. This will enable Perceptive to pursue midmarket and enterprise organizations around the globe and eventually support multinational customers.

Perceptive has a big vision — one that is considerably broader than Perceptive's historical focus on document management and image-enabling ERP, HCM, and other enterprise applications. Perceptive is seizing the opportunity to take process and content management to the next level with full BPM capabilities, advanced capture and extraction, and enterprise search. It will need to bring its customers along as it realizes its vision. We expect the company to continue to focus on ease of use, rapid deployment, and ease of integration — tenets that have guided R&D at the company for a long time — as it integrates acquired solutions in a seamless end-to-end solution.

As Perceptive expands around the world and pursues larger enterprises with its expanding portfolio of solutions, it will need to smoothly manage growth to ensure satisfied customers. As noted previously, the customers we surveyed are, overall, very happy with Perceptive and are deriving significant value from deploying Perceptive's solutions. Customers were quick to praise Perceptive's scalability, ease of use, and ease of integration; and they cited the "sharp minds" and "hard workers" at the company, along with a culture of honesty and a willingness to listen and respond with timely solutions to real problems. Of course, we also heard a few complaints about bugs and regression issues upgrading to new releases, and some customers shared their wish lists for product enhancements. But it's clear from the survey responses — and from the customer presentations we attended at Perceptive's recent user conference, Inspire 2012 — that the company has established a strong connection with its customers.
Maintaining that connection as Perceptive expands around the world will be one of its challenges going forward. Given its history of customer commitment, we are confident this is something Perceptive will continue to focus on during this next phase of growth. With Lexmark’s support, Perceptive’s staff has roughly doubled, and the company now has dramatically greater resources to bring to bear on product enhancement, quality assurance, and support.

Many of Perceptive’s customers are still unfamiliar with its new offerings, and of course, Perceptive has work to do to rebrand, integrate, and rationalize recent acquisitions. We believe, however, that Perceptive has an excellent opportunity going forward to grow its business — both with existing customers by addressing more of their content and process challenges and with new customers around the world. Perceptive has been successful in North America, with a small but growing customer base in other regions. Perceptive now has the resources to replicate that success in the rest of the world.

CONCLUSION AND RECOMMENDATIONS

Although historically very separate disciplines, enterprise content management and business process management are converging today to address the document- and people-intensive business process automation needs of the enterprise. Together, these solutions can address the automation gaps in enterprise applications that impair business process efficiency and visibility.

The value of integrated process and content management already resonates in organizations that have demonstrated the value of business process automation and business process improvement with prior investments in both BPM and ECM. These organizations stand to realize additional efficiencies by adopting business process mining, business activity monitoring, and dynamic case management.

Most organizations, however, are part of the way along the journey to integrated process and content management. Those coming from the BPM space need to learn more about the value of enterprise content management; conversely, those coming from the ECM space need to become more familiar with business process management. We believe the easiest path for both of these camps is to engage with a vendor that has a strong foundation in both ECM and BPM. Vendors that provide both technology stacks are best prepared to help customers embrace them and to add value with dynamic case management.

Users should not be afraid to adopt these technologies in a phased approach. As IDC research shows, incremental ROI is very achievable. In fact, demonstrated success in one area of the organization, with one application, quickly leads to increased user demand for additional implementations.

We think it’s essential for organizations to build centers of excellence that embrace both technology stacks and consolidate best practices. The BPM and ECM groups in most organizations would benefit from greater interaction. We believe 2012 is the year this starts to happen in earnest. Users should look to their vendors to help guide these efforts.
IDC recommends that organizations embarking on the path to integrated process and content management enlist vendors such as Perceptive Software to help them:

- Develop a solid business case — one they believe is attainable within six to nine months
- Map their priorities to a phased approach that anticipates future needs
- Choose a solution that is scalable and easily integrated with all of their enterprise applications so that they do not need to write or maintain custom code
- Implement using best practices that can be leveraged in successive projects

Perceptive has assembled a complete and robust portfolio spanning both BPM and ECM solutions, and we believe Perceptive is well positioned to address the emerging needs of enterprises around converged process and content management.

**METHODOLOGY**

The information in this white paper leverages IDC’s ongoing research into enterprise content and business process management in conjunction with a focused survey of Perceptive Software customers.

IDC’s industry analysts have been reporting on and forecasting IT markets for more than 40 years. IDC's software industry analysts have been delivering analysis and prognostications for packaged software markets for more than 25 years utilizing a mix of different but interrelated sources of information, including customer interviews, demand-side survey research, supply-side survey research, vendor briefings, and publicly available information and observable trends.

In April 2012 we conducted an opt-in Web-based survey of a representative sample of Perceptive Software customers. To encourage them to share their thoughts with us in complete candor, we promised that their names and their companies’ names would remain confidential. Our 16 respondents came from a broad range of industries and included insurance, healthcare, higher education, manufacturing, media and entertainment, construction, professional services, and nonprofit organizations. Most came from North America, with two from Western Europe. We received responses from both IT and line-of-business stakeholders, and we saw a good mix in level of responsibility, with more than half at the director/vice president level. We also had a balance of newer and older Perceptive Software customers: Respondent companies have been using Perceptive Software solutions for 1 to 10 years, with an average of 4 years. Finally, our survey sample represents a variety of company sizes, with approximately two-thirds coming from organizations with fewer than 1,000 employees and one-third from organizations with 1,000 or more employees.

We conducted in-depth interviews over the phone with two of our survey respondents for the case studies in this paper. We also attended Perceptive Software’s recent user conference, Inspire 2012, in Miami, Florida, where we were able to meet with users in person and hear firsthand how they have benefited from their investments in Perceptive Software.
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