

ABBYY® FlexiCapture™ Studio Software Dramatically Improves Accounts Payable Productivity

*By Arthur Gingrande, ICP
Partner, IMERGE Consulting*

EXECUTIVE SUMMARY

Recognition technology has evolved to the point where mixed batches of forms – so-called “unstructured” forms – can be recognized in software at industrial strength accuracy rates. In general, the term “unstructured forms” – more accurately called “semi-structured” forms – pertains to a group of functionally alike forms that have dissimilar layouts. The use of forms automation software to recognize semi-structured documents is growing and broadening, paving the way for mainstream adoption by companies across all industries. Industry-wide studies confirm that the department with the greatest need for this high-productivity technology is the accounting department; in fact, the majority of accounting departments report a high demand for processing Accounts Payable (A/P) forms such as invoices, as well as Accounts Receivable (A/R) documents, which are mainly remittances. These documents drive high-demand applications, mainly because they cut horizontally across all industries in high volume and are processed at costs that are far from insignificant.

ABBYY FlexiCapture Studio™ enables classification of semi-structured documents at the same accuracy rates that are ordinarily achieved on structured forms. ABBYY FlexiCapture technology is extremely user-friendly, yet it is flexible and powerful enough to be applied to an unlimited number of generalized tasks. Automating the processing of bills and invoices typically creates a reduction of at least 60% in the overall cost of operations, no matter what volume of documents involved.

ABBYY FlexiCapture Studio doesn't take much time to implement: in two hours or less, and with no special programming skills, users can easily create working prototypes that do not require special programming skills in two hours or less that accurately and reliably capture the most important data fields on any given class of forms. The model can be refined to accommodate industrial-strength deployments within a few days. Developers, programmers and integrators may use FlexiCapture Studio to create solutions for capturing data from a wide range of document types – or even for redesigning an entire business process end-to-end. FlexiCapture Studio is particularly relevant when it comes to automating recordkeeping tasks mandated by today's new compliance legislation, such as Sarbanes-Oxley, HIPAA, and the U.S. Patriot Act.

An ABBYY reseller or integrator should be consulted for a proof-of-concept demonstration, which may be the best way to accurately determine how to process a particular mix of customer forms. An enterprise-wide, semi-structured document processing solution can be implemented in stages, on an as-need basis, as the “ripple effect” of the first departmental installation spreads from one department to another.

In effect, ABBYY's software solutions provide users with a means to implement “best practices”. Adopting ABBYY FlexiCapture can have a dramatic impact on a company's efficiency and productivity in A/P processing operations, which, regardless of the size of the company involved or its forms processing workload, can give that company a significant competitive advantage.

THE RISE OF “UNSTRUCTURED” FORMS PROCESSING

The loudest buzz in today’s forms processing marketplace comes from the excitement over the automated recognition of so-called “unstructured” or “semi-structured” forms. Until relatively recently, automated forms processing software was used almost exclusively within a relatively small segment of the corporate marketplace. It was first adopted by companies for use in forms-centric applications such as consumer surveys and order forms. For a particular survey or offering, an organization would design a batch of “ICR/OCR-friendly” (i.e., machine-readable) forms to ensure accurate recognition. These specially-designed forms typically included data fields that consisted of a series of contiguous, quarter-inch boxes (called “combs”) that were printed in carbonless, “drop-out” ink that caused them to be unobtrusively invisible to a scanner. These artificial guides, while often ugly, nevertheless encouraged (and sometimes even forced) users to print their characters neatly and legibly, so that were well-formed and separate from one another.

The completed forms could be recognized easily by machine. They would be sent to a group of end users – say, subscribers to the Book-of-the-Month Club – who carefully filled them out and mailed them back to the club’s headquarters. There, the completed forms were automatically processed in large batches by character recognition software at rates that rivaled human accuracy.

These particular form types were processed by the company that designed them. Hence, the precise location of every data field on each form was determined in advance, and the information could be incorporated into a software template that facilitated the process. But if the forms were not intentionally formatted by the originating company to follow the machine-readable design standards for automatic processing, they could not be recognized with acceptable accuracy.

Since then, character recognition technology has evolved to the point where mixed batches of forms can be recognized by software at accuracy rates that are industrial strength. The use of forms automation software is growing and broadening, paving the way for mainstream adoption by companies across all industries.

In the eye of the beholder

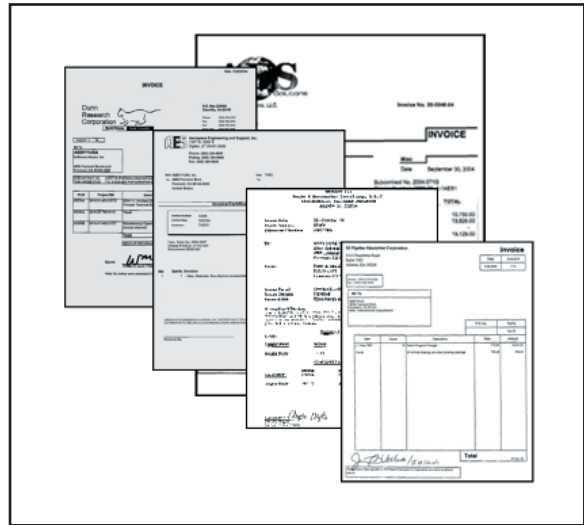
Offhand, the use of the term “unstructured form” might seem odd, given that any form by its very nature is structured. In fact, historically the form has been the basic means for organizing, presenting and communicating data in a business environment. Take invoices, for example. The five thousand invoices sent out by GE Consumer Sales last Wednesday are identically formatted and clearly identifiable as requests for payment. No one in their right mind would say they are unstructured.

However, that term does make sense when the forms are looked at from the viewpoint of the company that receives GE’s invoices. From the perspective of the receiving company, they process GE’s invoices along with a wide variety of invoices, shipping documents, statements and other bills that arrive in the mail daily. Taken as a group, these forms represent a broad spectrum of different designs and layouts that, although definitely structured, appear arbitrary to their recipient.

For these reasons, this class of arbitrarily received form documents can be more appropriately described as “semi-structured”, while the class of arbitrarily received documents that are not forms likewise can be termed “unstructured”. The latter document class would include correspondence and other text documents. Therefore, groups of forms can be categorized as unstructured or semi-structured when they possess the following characteristics:

- The forms are not designed by the receiving/processing agent;
- The forms are received in a variety of layouts that can differ from sender to sender; and
- The forms cannot be processed using the traditional method that uses a predefined form template to locate the required data fields on each of the forms in a particular batch.

In other words, an unstructured or semi-structured form is a member of a group of functionally alike forms that have dissimilar layouts and that are processed by the recipient/processing agent in collectively high collective volume.



Samples of semi-structured forms - a group of functionally alike forms with dissimilar layouts.

Ordinarily, the random differences among unstructured forms would mean that, because they cannot be processed using the traditional template-based approach, they would have to be processed via manual data entry. However, today’s classification software incorporates sophisticated algorithms that can spontaneously and accurately locate numerous specified data fields within the same document type across a diverse array of form layouts. More often than not, these elegant algorithms are robustly supported by high-speed, brute-force character recognition engines driven by the heavy-duty computing horsepower and abundant memory available in the average desktop PC – and at a reasonably low cost. Industry surveys confirm that the department with the greatest need for this high-productivity technology is the accounting department.

According to surveys by trade organization such as IOMA (Institute of Management & Administration - www.ioma.com), the vast majority of accounting departments report a high demand for processing both Accounts Receivable (A/R) and Accounts Payable (A/P) forms. With respect to A/R, this applies especially to big mail order companies that receive a high volume of repeat orders, and publishing houses that process multitudes of magazine subscriptions and renewals. These order entry companies automate their forms processing operations by using templates based upon highly structured, machine-readable forms that they tailor to meet the specific processing needs of their customers. This approach is not possible in the area of Accounts Payable (A/P), however, because accounting departments have no control over the design of the forms they receive. Indeed, managers of accounting departments consistently report that the operations area capable of absorbing the most process improvement is the A/P division.

THE MARKET FOR ACCOUNTS PAYABLE FORMS PROCESSING

Accounts payable is a high-demand application, mainly because it cuts horizontally across all industries in high volume. Purchase orders, bills and invoices are documents that all industries receive (and send out) frequently – at a cost that is far from insignificant. In fact, according to a recent industry survey by IOMA, over two thirds of all companies (65% of the total response) report that they process over 10,000 invoices a year. These companies make up the primary market for specialized A/P solutions. As might be expected, companies that process the most invoices tend to have the highest annual revenues and the greatest numbers of employees. However, some organizations in smaller size ranges also report high invoice volumes.

Another 26% of the departments handle between 1,000 and 10,000 invoices a year. At the rate of 20-200 per week, these organizations will benefit from automation and most likely can justify the required investment in automated form processing software.

Moreover, the economic recession of the last four years in America has forced many companies to downsize and find means to increase employee productivity and to explore new ways to cut costs – which include the automation of business processes that traditionally are carried out manually. The survey by IOMA covered over 400 A/P departments nationwide and showed that 96% of AP invoice processing involves keying data from paper, and that the average time to process an A/P invoice is 12 days. That survey also reported that the incidence of anomalies across the board in A/P invoices range from 44% to 55%, and, furthermore, that 25% of all invoices are paid late, which ruins a company's chances of obtaining early payment discounts.

This superabundance of inefficiency leaves plenty of room within these processes for improving accuracy and reducing costs

– which makes the vast majority of corporate invoice processing operations overripe for automation. Managers of A/P software departments won't be disappointed when they go shopping for software that automatically processes bills and invoices, because per-document recognition accuracy can be achieved reliably and consistently at rates greater than 60%. This means that out of every 1000 invoices processed by a company, an automated invoice processing system can classify, validate, and extract data from at least 600 of those documents at a zero error rate, and then insert that data into the firm's back office accounting system. When recognition results fail to meet pre-set thresholds based upon user-defined confidence levels, the remaining invoices are rejected by the A/P software and sent to human operators for manual review and correction. The result is labor savings that typically amount to at least a 60% reduction in overall processing costs.

FACTS ABOUT A/P OPERATIONS*

- *The best run A/P departments are six times more efficient than the average.*
- *Approximately 96% of A/P invoice processing involves keying data from paper.*
- *EDI and other document automation account for just 4% of A/P Invoices.*
- *The average time it takes to process an A/P invoice is 12 days.*
- *The incidence of anomalies in A/P invoices range from 44% to 55%.*
- *Some 25% of all invoices are paid late.*

*IOMA Study, 2005 (www.ioma.com)

PROCESSING SEMI-STRUCTURED FORMS WITH ABBYY FLEXICAPTURE STUDIO

There are two basic methods for processing semi-structured as well as unstructured forms, and they are found at opposite ends of the methodological spectrum. The morphological analysis approach treats each form primarily as a pattern of specific images, and classifies the form essentially by looking at its overall shape. The character recognition-driven approach treats the form primarily as a concatenation of text data elements and relies heavily on using brute-force OCR of every data field, coupled with keyword analysis, to classify each form. It is rare for either approach to be used solely by itself. Contemporary software vendors such as ABBYY often use a multi-directional approach that is weighted toward one end of the methodological spectrum or the other, depending on the nature of their proprietary algorithms and/or the types of documents that must be classified.

ABBYY FlexiCapture Studio is an enabling technology that empowers ABBYY's world-class forms processing software product, FormReader, with the capability to classify and recognize unstructured documents at the same accuracy rates with which structured forms are processed. To attain these high performance standards, ABBYY FlexiCapture Studio uses a set of unique and proprietary algorithms to detect data elements on forms. Unlike other applications that analyze form elements one by one, FlexiCapture Studio can simultaneously view all the elements on a form as one unified pattern or morphology.

Types of Elements Detected by ABBYY FlexiCapture™ Technology

- **Static text** – any text on the page. The static text element is defined by the possible contents of the text. It is possible to specify different variants of the text to be found.
- **Separator** – horizontal or vertical black line. There may be many such lines on the page. It is important to specify enough information to allow the system to distinguish one specific separator from others. Relations to other objects are normally very helpful, and specifying some general constraints on the separator's length also works well.
- **White gap** – horizontal or vertical area containing no objects. White gaps are very helpful for distinguishing between several specific layouts, as they are easy, fast and reliable to detect.
- **Barcode** – any one- or two-dimensional barcode. ABBYY FlexiCapture detects barcode types supported by ABBYY FineReader Engine.
- **Character chain** – text that varies and may contain several lines, and therefore cannot be reliably detected by the static text element. It is possible to specify a regular expression for the contents of a character chain, as well as a set of characters that can be found in it.
- **Table** – a part of a document organized by several columns and rows, such as detail lines in invoices and purchase orders. To simplify the description of such regions, it is enough to describe non-repeated parts of a table – header, footer, columns – and detect all rows automatically. It is possible to specify a non-fixed order of columns, multi-lined rows and key words for footers.
- **Object collection** – any object, such as text, a punctuation mark, picture or checkbox. Can be useful for locating very generic contents on a certain area of the page.
- **Date, currency, phone** – text representing a date, currency or phone number. Each of these elements has several pre-defined options and format definitions.

ABBYY FlexiCapture™ Studio is not a standalone solution; rather, it is a plug-in SDK module that allows developers to create for each class of unstructured forms an intelligent configuration called a FlexiLayout™. When teamed up with ABBYY recognition products, FlexiCapture Studio can capture data from a wide variety of unstructured forms. A FlexiLayout is somewhat like a dynamic template, only more intelligent. It is a formal but nonetheless highly flexible description that instructs ABBYY FormReader or the FineReader Engine how to find user-defined data fields, or blocks, on unstructured documents using sets of rules and object descriptions called elements. FlexiCapture Studio provides developers with a powerful toolset for creating a generic description of variable forms such as purchase orders and invoices. These software tools can specify ranges for data location and content in terms of regular expressions, substrings or sets of variants like line items and subtotals. They also can define relations to other objects, such as corporate logos, that may exist on the page.

In effect, a FlexiLayout operates as an automatic guidance system that allows an ABBYY recognition engine to find user-specified data fields. Whenever it fails to locate the data on the first try, it makes the technical adjustments required to succeed. FlexiLayout™ Interpreter software is required to enable ABBYY software to use FlexiLayouts.

FlexiLayout element will not necessarily be found on a given page. But it is also possible to describe a single object using several elements of different types – in effect, triangulating the process – and succeed in picking up the element that was found during the initial morphological analysis. This is very useful when the content of a specific logical element differs from form to form, such as the P.O. number or page number on an invoice. One thing is certain: if the FlexiLayout™ is optimally designed, invariably there will be several means to find the desired information; so if one fails, there is another that will always work.

There are two ways to create a FlexiLayout for ABBYY FlexiCapture Studio. Technically- inclined users can create a FlexiLayout™ by writing programming code in a formal but easy-to-use FlexiCapture language. Other users may prefer to use a menu-driven approach that avoids programming by allowing a user to select options displayed in dialogue boxes.

Once the FlexiLayout of an invoice is formulated and tested, it is exported to either FormReader or the FineReader Engine with their FlexiCapture Interpreter feature enabled. Then the ABBYY recognition software can use the FlexiLayout to capture data from unstructured forms and documents, no matter how complex. Once the FlexiLayout is created for an invoice application, it can automatically match the elements with invoices that contain similar data but have different designs.

FlexiCapture technology is flexible and powerful enough to be applied to an unlimited number of generalized tasks. For instance, in large insurance companies, FlexiCapture technology has been used to process invoices from law firms that vary from 1 to 10,000 pages in length and that employ a variety of different form types that request payment for projects covering large numbers of legal tasks, personnel hours, and other line items.

DEPLOYING ABBYY FLEXICAPTURE STUDIO

With FlexiCapture Studio™, users can easily create working prototypes that do not require special programming skills. In most cases, it is possible to create a rudimentary model in two hours or less that will accurately and reliably capture the most important data fields on any given class of forms. The model can be refined to accommodate industrial-strength deployments within a few days. Developers, programmers and integrators may use FlexiCapture Studio to create solutions for capturing data from a wide range of document types – or even for redesigning an entire business process end-to-end. With regard to accounts payable applications, FlexiCapture Studio can find all the required amounts, dates, line items, addresses and administrative data by using the information provided by the FlexiLayout™.

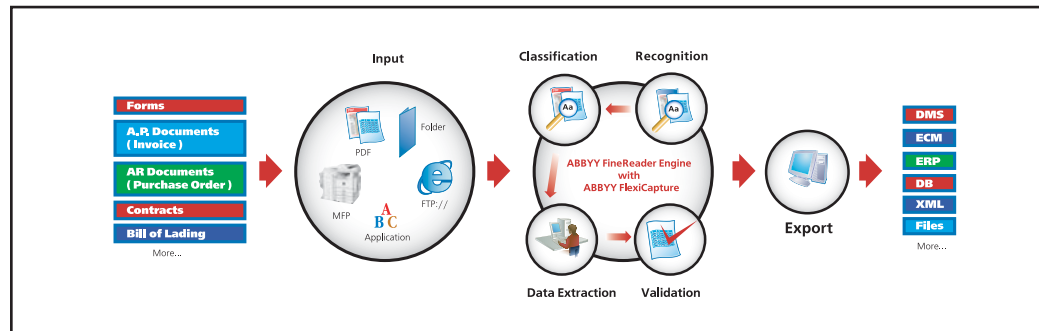
FlexiCapture Studio software can be particularly effective when it comes to automating recordkeeping tasks mandated by today's new compliance legislation – for example, Sarbanes-Oxley, HIPAA and the U.S. Patriot Act. A useful way to look at forms is to see them as line-of-business (LOB) objects that move data through LOB processes. Take a purchase order or an invoice, for instance. These are more than just forms. They are the enabling vehicles through which businesses purchase goods and services. Organizations use a purchase order to capture and transmit the required data to their workers and suppliers. They use an invoice to pay for the goods they deliver. Purchase order forms are used to initiate business processes; without them, companies could not buy goods or services. Forms are LOB objects that enable organizations to share both documents and information that extend beyond their employees to include their partners, suppliers and customers.

While organizations that use forms must be able to leverage them and maximize application interoperability, they also must meet other, additional requirements. In this post-9/11 era of the U.S. Patriot Act, Sarbanes-Oxley, HIPAA and other compliance regulations, all organizations are constrained to some degree by specific rules that govern document and records retention. Organizations that previously archived their original documents solely in a paper format now must store them electronically in order to be able to meet compliance standards and discovery requests for records in a timely fashion. Applications that capture and present compliance data by scanning forms and associated legal documents must provide electronic capabilities that can meet the document lifecycle and records retention requirements for all organizations.

Compliance legislation is creating a new era where content and activity are so naturally intertwined that it makes no sense to separate them. In complex applications that require more detailed customization and assistance, FlexiCapture Studio gives developers direct “under the hood” access to its internal, algorithmic architecture at a level that previously has not been available and which permits a user or developer to directly specify any additional relations or properties. By integrating workflow and document management software with FlexiCapture, it is possible to program certain combinations of data blocks extracted by ABBYY OCR to automatically trigger specific data archiving and/or data mining tasks that can be carried out once FlexiCapture classifies a document and links it to a certain retention schedule.

Guidelines for optimizing FlexiCapture Studio deployment

A company's business processes need not be reengineered in order to enable FlexiCapture™ Studio deployment. FlexiCapture can be implemented with ABBYY FormReader™ to create a standalone application, or it can be integrated into an existing business process by using ABBYY FormReader Developer Edition (a special version of FormReader with an open API) or the FineReader® Engine SDK. In either case, FlexiLayout™ serves as a set of rules that govern the match-up process that enables ABBYY OCR, ICR, OMR and barcode reading functions to easily extract data from the critical fields on virtually any group of forms.



ABBYY data capture solution extracts data from a wide range of document types and exports results to various systems and formats.

As previously mentioned, if the user or processor controls the document layout, it may be easier to design structured company forms for maximum data extraction performance rather than to tailor FlexiCapture to battle existing recognition problems. In any case, when it comes to processing semi-structured documents, FlexiCapture Studio users can optimize its deployment by following the guidelines listed below:

1. Consult with an ABBYY integrator to develop the right solution.

ABBYY integrators are trained in FlexiLayout setup and systems design, so they can give prospective users expert advice on how to, say, automate their accounts payable operation. Their knowledge is not all textbook knowledge: it is real-world knowledge gained in the trenches of real-world software development and integration. Moreover, if the existing operation is a legacy system, they can tie it to contemporary technology. By analyzing a customer's current business process, the variety of forms that they process, and their current hardware and software systems, an integrator can create and fine-tune a solution for processing a particular customer's forms – regardless of the volume involved.

2. Ask an ABBYY integrator or VAR for a proof-of-concept demonstration.

The best way to discover whether or not FlexiCapture Studio can be used to accurately process a particular customer's mix of forms is to submit a representative variety of the user's actual forms to a local ABBYY integrator or VAR for a proof-of-concept demonstration. In this way, they can estimate the performance that could be expected on a given batch of semi-structured forms, and even give the user an idea of the payback involved. Once the FlexiLayout configuration meets acceptable accuracy requirements, the system can be designed and scaled to fit the customer's forms automation needs.

3. Consider paying a third party for FlexiLayout setup versus training your staff.

Any substantive software application requires some training to optimize its performance. But if a relatively small variety of semi-structured documents makes up a company's forms processing requirements, then it may be more expedient to hire a VAR or integrator to set up and tweak the FlexiLayouts on a class-by-class basis rather than commit a staff member to take a formal ABBYY training program. However, a high-volume, broad-variety, enterprise-wide forms processing operation may require the attention of a full-time employee whose training is regularly updated. It all depends on the specific system requirements.

4. Start with a departmental application that has a potential enterprise-wide impact.

This means choosing a departmental FlexiCapture™ application that has the reengineering potential to highly leverage benefits with respect to the investment required, and then tweaking it to optimize forms processing efficiency. According to research previously cited, the A/P operation of the accounting department is a place where semi-structured forms processing can yield this kind of a highly leveraged impact.

5. Test FlexiCapture Studio on a departmental basis before rolling it out as a full-blown enterprise solution.

When considering enterprise-wide deployment of an automated forms processing solution, success can be reliably achieved through a conservative, "divide and conquer" approach. In today's highly networked enterprise, changes in a given departmental application invariably affect the business processes of the departments with which it interconnects. An enterprise-wide semi-structured document processing solution can be implemented in stages on an as-needed basis as the "ripple effect" of the first departmental installation influences one department and then another. The accounting department, in which newly found efficiencies affect all aspects of the business cycle, certainly qualifies as a forms-centric, mission-critical implementation center. Get it right in one department first, and then move on to the others.

ABBYY FlexiCapture Studio is available as a companion product to the ABBYY FormReader™ form processing solution or the ABBYY FineReader® Engine software development kit. At least one runtime license of either product is required to process forms using a FlexiLayout™.

CASE STUDIES

Case Study #1: Processing semi-structured documents at Reser's Fine Foods: Using ABBYY Flexicapture Studio and FormReader to satisfy a big appetite for invoices

Reser's Fine Foods, Inc. of Beaverton, Oregon was started by Mildred and Earl Reser in 1950 to produce and sell potato salads from Cornelius, Oregon. Having grown from a home kitchen and a single potato salad, Reser's Fine Foods now sells more than a million pounds of mashed potatoes a week from a plant with over 120,000 square feet of cooler, freezer, dry storage, production and office area. With close to \$300 million in wholesale and retail sales, the company is one of the nation's premier manufacturers and distributors of high-quality refrigerated food products to the grocery and food service industries. Its line of thousands of delicious foods includes deli salads, refrigerated potatoes, pasta and sauces, entre salads, Italian salads, Mexican foods, smoked meats and sausages, dips and salsa, and desserts.

Despite its size and success, Reser's prides itself on keeping in touch with its customers, just as it did when it was a home-based business in 1950. The company must process 1000–1500 invoices a day that can involve 1000 different form types. To keep its suppliers happy and retain its vendor discounts, as well as cut down on its invoice processing costs, Reser's accounting department had to find a way of automating its invoice processing and check balancing processes.

The solution was provided by Formtran, an integrator and ABBYY reseller from Foothill Ranch, CA. With the aid of ABBYY FlexiCapture™ Studio and Formreader, Formtran provided Reser's Fine Foods with an automated data capture solution capable of recognizing Reser's diverse variety of 1000 different invoice types, each of which could contain hand-printed, machine-printed and barcode data. Once the FlexiCapture Studio setup process was complete, Formtran found that it was able to process 500 invoice forms an hour at a single workstation, with 75% of the forms requiring no operator intervention. Over the past six months a successful pilot study was conducted. Formtran is projecting a payback of less than a year.

Case study #2: Processing structured documents with ABBYY FormReader streamlines the flight plan of an aerospace company's "mission-critical" order processing

Current processes to book and expedite purchase orders faxed to a leading aerospace company's Aftermarket Services Order Management ("AAS Order Management") were time-consuming and inefficient. The company needed a data collection solution that would convert fax images received in TIFF format to XML data with high accuracy and to transmit this data to a workflow solution provided by Adobe Systems, Inc.

In addition, the company needed to identify certain "mission-critical" purchase orders for airplanes that were stranded on the ground with repair problems. In addition to maintenance and storage expenses, stranded airplanes create big lost opportunity costs for airlines that cannot use them to fly passengers and cargo. Hence, their repair purchase orders required emergency attention.

The AAS Order Management solution required that faxed purchase orders be digitized using OCR together with related technologies supplied by Adobe®. Volume demands were 600 single- or multiple-page purchase orders per day received solely by fax. The new system would be required to format XML data from faxed purchase orders into an EDI format and then transmit the data to a fileshare or Web service for further processing by Adobe Systems. To this end, the company retained Formtran to develop a data collection solution for converting TIFF images of purchase orders to XML data using ABBYY's OCR technology.

Using ABBYY FormReader™, Formtran created five purchase order templates that converted fax image files to XML data for customers designated by AAS Order Management. ABBYY software made it possible to automatically retrieve purchase orders faxed by its customers to a single file server directory at the company by polling it at regular intervals and using OCR to convert the fax images to computer-usable data. Data conversion results were extracted from the faxed purchase orders using customer-defined OCR templates – at 100% accuracy.

Purchase orders containing certain keywords such as "emergency", "work stoppage", "critical" were flagged as mission-critical documents. Non-critical purchase orders containing other information were flagged according to the company's regular business rules. Using an XML schema definition file developed jointly by Formtran and Adobe, the OCR data were converted to XML, matched to a master purchase order template, and exported via Webservice to Adobe's Lifecycle™ Workflow Server version 7. Because of its mission-critical status, AAS Order Management operated the fax-to-XML system 24 hours per day, 7 days per week, using one systems administrator who was also responsible for reject repair. Response time on mission-critical tasks was reduced from days to hours, creating strategic advantages as well as hard-dollar benefits for the aerospace firm. Formtran projects that payback for the system will take no longer than 12 months, but the value in terms of decreased turnaround time and improved flight availability will yield a strategic advantage to the firm that far supercedes simple labor savings.

AABBY FLEXICAPTURE STUDIO YIELDS A COMPETITIVE ADVANTAGE

ABBYY FlexiCapture™ is robust, groundbreaking technology that can have an enormous impact on the accounting department of companies of all sizes by raising their efficiency and productivity - regardless of the volume of forms they process - particularly if they are in need of implementing a policy of "best practices". This is because lack of "best practices" can create tremendous disparities in efficiency and cost-effectiveness between comparable companies. Take, for example, the number of invoices processed annually per employee - it is not unusual for an A/P employee in a billion-dollar organization to handle as many as ten times the number of transactions per year as their counterparts in similar-sized organizations! At the same time, finance departments in big companies that optimize A/P best practices spend only about \$0.35 per invoice, while those that are lacking the same spend an average of \$3.55 per invoice. The value of best practices can hardly be underestimated.

So in general, large companies tend to run their A/P organizations far more efficiently when evaluated against their smaller sized counterparts in like industries. Comparisons reveal that, while the superior efficiencies obtained at large companies to some extent can be attributed to economies of scale, the operational inefficiencies in small and medium-sized companies are most often due to their lack of A/P automation. This fact becomes evident when it is shown that substantial savings from automating A/P forms processing operations can be realized by businesses that process as few as 300 invoices per month. At small companies, the cost of processing a single invoice falls somewhere between \$8 and \$16 - call it \$12.00 per invoice. At the rate of 300 invoices per month, that means that the savings that could be incurred by fully automating an invoice processing operation come out to \$3600 per month or \$43,200 per year - which is more than enough money to fund the cost of the ABBYY software required to do the job.

Moreover, automating the A/P business process cuts down the average invoice processing lifecycle from one week to one day - which guarantees that a company can meet its turnaround requirements for obtaining payment discounts. Hence, even for small and medium-size companies, the payback can be less than a year.

In addition to the hard dollar savings incurred by reduced data entry costs, the scope of benefits that result from automated invoice processing with ABBY software includes soft dollar and strategic benefits. These include enhanced accuracy and timeliness of information, streamlined work processes, improved control and risk management, and improved vendor relationships. ABBYY FlexiCapture technology can produce such a dramatic impact on efficiency and productivity in A/P operations because its installation is, in effect, a way of implementing best practices. The company that adopts the ABBYY FlexiCapture Studio software solution for its mission-critical, semi-structured forms processing applications stands to gain a cost-justifiable ROI plus a significant competitive advantage.

Best Practices Costs			
Process and per transaction*			
Process	What is measured	Average finance department	World class finance department
Payables	Invoice	\$3.55	\$.35
Receivable	Remittance	\$.67	\$.04
Travel and expenses	Expenses report	\$6.06	\$.27
Fixed assets	Asset tracked	\$4.56	\$.64
Payroll	Paycheck	\$1.91	\$.36

*Process cost * labor cost * Outsourcing cost
Source: The Hackett Group, 1995