

APS ROI Calculator

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Document Scanning

Custom Databases

OCR

Document Production

Microfilm Conversion

The following table attempts to compare the various costs incurred from developing an in-house electronic database from a paper document collection, as opposed to outsourcing the indexing and linking the records to an electronic image. It was designed with the intention of being a useful tool and as such may not show an actual dollar saving from using electronic images. Therefore, when comparing the two bear in mind that many of the saving derived from imaging are intangible. For example, the potential for finding the "smoking gun" from a random search carried out effortlessly, in seconds, from the desktop (or laptop). Also consider that the cost to scan and code a document collection can be offset against the time billed by the paralegal while the documents are being processed using a third-party. *The yellow boxes should be adjusted to reflect the particular case.* Start in box 1.

Following the ROI is a summary of an article by By George J. Socha, Jr. of Halleland Lewis Nilan Sipkins & Johnson, Minneapolis, Minn. Using an actual case, he compares the cost of imaging against more traditional methods, and draws some conclusions.

Summary

Number of pages 53,000

Number of boxes 21

1. **Estimated pages** - if unknown a standard legal box holds around 2,500 pages
Estimated Pages 53,000

2. **In-house objective coding costs** - typical amount of time spent objectively coding paper document collection in-house.

| Hours per box to objectively code | Number of boxes (taken from above = number of pages/2,500) | Hourly rate of paralegal | Employee overhead - typically 20% | Overhead cost | Cost to objectively code |
|-----------------------------------|--|--------------------------|-----------------------------------|---------------|--------------------------|
| 20 | 21 | \$ 40.00 | 20% | \$ 8.00 | \$ 20,352.00 |
| Objective coding costs | | | | | \$ 20,352 |

3. File Maintenance - typical amount of time spent directly maintaining paper documents, (other than coding, and time spent searching and retrieving documents).

| Number of employees | Hours per week processing documents (each employee) | Paralegal hourly rate (from above) | Cost |
|---------------------|---|------------------------------------|-----------|
| 1 | 10 | \$ 48.00 | \$ 480.00 |

Weekly Labor Costs \$ **480**

4. Lost or misfiled documents - this is difficult to quantify, we have used figures from the document management industry. If the cost per page seems high consider the hourly wage of support staff and the time to discover, identify and replace a lost or misfiled document. Remember also that the documents most likely to be lost or misplaced are those most used, and as such, possibly the most important.

| | Percent misfiled | Est. Pages | Est. pages lost | Time spent retrieving or replacing misplaced document (minutes). | Hourly rate (from above) | Cost |
|-------------------|------------------|------------|-----------------|--|--------------------------|---------------|
| Misfiled | 0.03% | 53,000 | 16 | 25 | \$ 48.00 | \$ 318 |
| Lost | 0.03% | 53,000 | 16 | 50 | \$ 48.00 | \$ 636 |
| Total Cost | | | | | | \$ 954 |

5. Typical life of case in weeks **Weeks** **24**

6. Third-party imaging and coding costs - the objective coding record count assumes a page to document ratio of 4:1. Not itemized in this section are the savings derived from having paralegals productively employed elsewhere while the documents are being coded off-site.

| | Est. pages | Price per page/record | Cost |
|------------------|------------|-----------------------|--------------|
| Scanning | 53,000 | \$ 0.13 | \$ 6,890.00 |
| Objective Coding | 13,250 | \$ 1.55 | \$ 20,537.50 |

Cost to image and objectively code \$ 27,428

7. Costs to search and retrieve documents - this is again difficult to quantify. Considering previous cases might be helpful. The example is for a search involving five, three page letters.

| | Minutes | Typical number of searches per week | Employee hourly rate (derived from above) | Total cost over lifetime of case (using estimated life of case, in weeks, from above). |
|--|---------|-------------------------------------|---|--|
| Time spent searching for documents then manually retrieving, photocopying and reinserting original paper document. | 20 | 10 | \$ 48.00 | \$ 3,840.00 |
| Time spent doing one electronic search and printing electronic images. | 5 | 10 | \$ 48.00 | \$ 960.00 |

Savings derived from having electronic images \$ 2,880

8. **Other benefits from imaging** - many of the saving derived from imaging are intangible such as the ability to instantly and effortlessly conduct random searches using any number and combination of criteria. Use your best estimate.

| | |
|---|-------------|
| Saving client money | Priceless |
| Paralegal time billed while scanning and coding was being performed by a third-party. | \$ - |
| Security and integrity obtained from imaging documents and archiving the originals. | \$ - |
| Portability, the ability to work from home, or when traveling. | \$ - |
| Ability to share documents (and cost), with co-counsel or client. | \$ - |
| Instant document retrieval from the desktop. | \$ - |
| Saving from not having to archive paper documents once case closes. | \$ - |
| Higher client satisfaction. | Priceless |
| Improved employee morale. | Priceless |
| Other Savings | |
| | \$ - |

9. **Summary**

| | |
|--|------------------|
| a. Cost to maintain a paper collection (Items (3 x 5) + 2 + 4) | \$ 32,826 |
| b. Cost to image (Item 6) | \$ 27,428 |
| c. Potential savings derived from imaging (Items 7 + 8) | \$ 2,880 |
| d. Savings (or cost) to outsource coding and use imaging (a - b + c) | \$ 8,279 |

Managing Discovery Documents Through Imaging

By George J. Socha, Jr.

Halleland Lewis Nilan Sipkins & Johnson, Minneapolis, Minn.

Anecdotes and advertising alike suggest that law firms can gain economic as well as strategic advantages by using imaging technology. Having used imaging in several cases, we had the general impression that imaging plus database was more cost effective than paper plus database or microfilm plus database, but we had no hard data to back up that impression. When we got the chance to gather that data, we jumped at the opportunity; our research confirmed that imaging allowed us to deliver a better and less expensive work product.

The Case

The firm was retained as lead plaintiffs' counsel in a document-intensive class action case. It was also selected to direct the discovery process and to maintain the master file. We initially estimated that between 500,000 and 1,000,000 pages of documents would be produced during discovery. Ultimately about 750,000 pages were produced, and more than 500,000 pages were scanned and coded.

Image Retrieval, Database Program, and Printer Costs

For the subject case, we used IPRO-Trieve for Windows (IPRO) from IPRO, Inc. A 10-concurrent-user license cost \$12,995 at that time.* To store the CD-ROM disks, we installed a 100-CD jukebox costing approximately \$7,200. We also installed a dedicated CD-ROM server costing about \$6,200 to manage the disks and relay image files to users. Our database program was Concordance Professional Edition for Windows; a 10-concurrent-user license cost \$4,000. No additional hardware was needed to run the program. For virtually all our image printing, we used a dedicated printer (\$4,000) connected to a PC that functioned as a print server (\$1,500). The printer and the print server were both equipped with printer accelerator cards that cost around \$3,300.

Scanning and Coding Costs

The images filled 48 CD-ROM disks— an average of 10,792 images per disk. We also received one printed set of the images, required, among other things, for use by the coding vendor. Our total scanning cost was approximately \$152,000, or about \$0.29 per page. This included document preparation, scanning, document reassembly, conversion of the image files to IPRO format, burning the images to CD-ROM disks, and delivery of the disks to us. We had approximately 518,000 pages coded for a total of approximately \$132,500, resulting in a per-page cost of less than \$0.26.

Training Costs

The firm's practice support manager conducted separate initial group training sessions for the attorneys and the legal assistants. Five attorneys went through a two-hour training session on IRPOTrieve and Concordance. Four legal assistants went through a more detailed three-hour session. The total cost of training— lost productivity for the attorneys and legal assistants and the practice support manager's time— was less than \$4,000.

Printing Costs and Savings

Even with images at the desktop, we still printed approximately 224,000 pages over 14 months. At an average of \$0.04 per page for paper and \$80 each for the 55 toner cartridges we used, printing cost us just over \$13,000, or about \$0.06 per page. Had we been working with a paper-based system, we would have made yet another set of paper copies to minimize loss of damage to our "original" set. With image retrieval, we had no need for the extra set. Consequently, we avoided making 518,000 additional copies at \$0.09 per page— a savings of \$46,620.

Space Savings

Without an extra set of copies, we needed approximately 600 fewer square feet of storage space. The space would have cost us an average of \$2.33 per square foot. Over 14 months, therefore, we realized a savings of about \$19,572.

Personnel Savings

Because we were using an image-and-database approach, we were able to handle the case with 2.5 fewer temporary full-time clerks. With a paper system, those clerks would have been busy pulling documents identified in database searches, copying the documents, delivering the copies to the attorneys and legal assistants, and refilling the originals. The clerks also would have

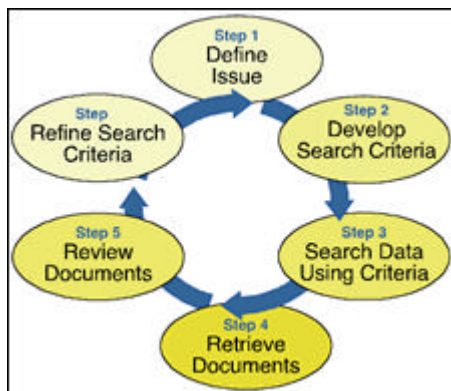
spent considerable time searching for misfiled originals. Two and one-half clerks at 160 hours per month over 14 months amounts to 5,600 hours. At approximately \$14 per hour, the clerks would have cost us about \$78,400.

Incidental Copying Savings

With a paper-based system, those 2.5 clerks would have made about 112,000 incidental copies at an additional cost of about \$0.20 per page. Eliminating those copies saved us another \$22,400.

Review Savings

Imaging can help you to locate relevant documents faster and more effectively. No matter what technology you use, the basic process remains the same six-step process (figure 1).



(figure 1)

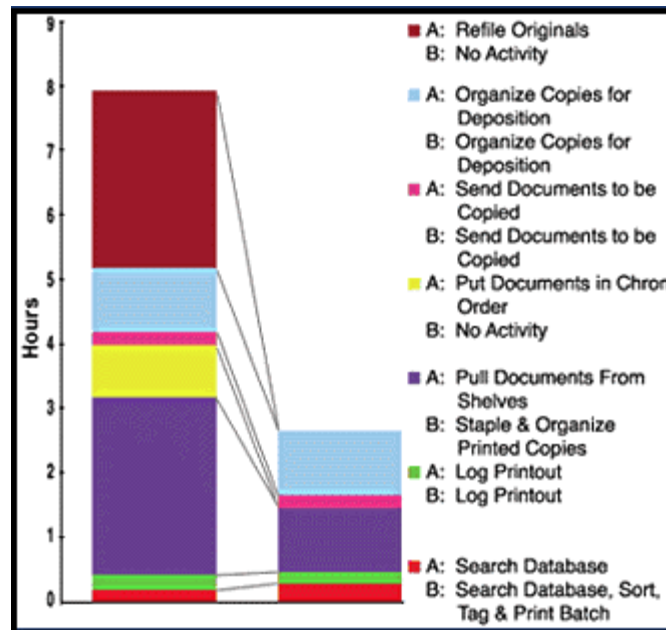
All these steps can be done without the assistance of computers. The introduction of a computerized database can speed the process immensely, particularly at Steps 2, 3 and 4.

Quantifying these savings is quite difficult, if not impossible. A conservative estimate is that the time attorneys took to review documents in this case using the image retrieval system was about 250 hours. At an average rate of \$100 per hour, this translated into a savings of approximately \$25,000.

Deposition Preparation Savings

The most dramatic cost savings was in legal-assistant and document-clerk time preparing deposition kits. We took approximately 94 depositions during discovery, which required review and collation of a substantial number of documents. On average, we identified and printed 100 documents per deposition. The parties introduced approximately 2,100 exhibits.

Using the image retrieval system thus saved us between 4.4 and 5.9 hours — or approximately \$307.37 — for each deposition that we took (figure 2).



(figure 2)

Conclusion

It is possible to reduce costs by using an image retrieval system and working more effectively. After evaluating the costs and savings detailed above, we determined that using the image retrieval system clearly saved us money in this case. We have been able to identify gross costs of approximately \$169,196.40, not including what we paid for the image retrieval system and the dedicated printer. Including that hardware and software, we figured that our gross costs amounted to approximately \$204,391.40. The gross savings to which we were able to assign dollar figures came to approximately \$220,884.78. If the cost of the image retrieval and printing hardware and software is not considered, the difference — our net savings — is approximately \$51,688.38. If those costs are factored in, net savings diminish to approximately \$16,493.38 — still a respectable sum.

Perhaps the most significant benefit of using an image retrieval system is the time it buys: legal assistants and attorneys can spend less time on the tedious mechanics of maintaining paper sets of documents and getting their hands on copies of the documents they hope are of interest, and more time on analysis and synthesis, the areas where the greatest gains can be found and the greatest value is created for the client's money.

