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Fiscal Year 2007—2008
Budget—\$1.8 Billion
Research—\$274 Million
Faculty & Staff—10,800

ROI Study Highlights*

- 532% ROI over five years
- 81% IRR over five years
- \$2.3 Million Investment
- Payback within 11 months
- \$10.3 Million Net Savings over ten years

Business Benefits

- Dramatically reduced paper costs and avoidance of document storage and disposal costs
- Dramatically improved information delivery and access
- Substantial CPU savings

Study Scope

- RSD EOS Software
- IBM Content Manager
- Adobe & activePDF™

The University of Miami generates business value through information governance with RSD software—realizes a 532% ROI

Executive Summary

Founded in 1925, the University of Miami is home to 15,400 undergraduate and graduate students from around the world. The University has expanded from its main location in Coral Gables, Florida to include a medical campus and additional dedicated centers in Miami and other parts of south Florida. Comprised of 12 colleges and schools, the University is the second largest private employer in Miami-Dade County, with more than 10,800 full- and part-time faculty and staff. The Coral Gables campus houses eight schools and two colleges, with over 200 student organizations on campus.

In 1998, the University of Miami decided to replace its outmoded microfiche archiving across the organization. In its search for an alternative document management system, the University discovered an environmentally-friendly solution that not only would do away with microfiche but could also curb the University's overall paper consumption, handling and waste, while simultaneously providing for efficient and secure information sharing. For the last ten years, the RSD EOS (Enterprise Output Solution) software has enabled the University of Miami to keep up with exploding growth in business documentation, store and manage this content, and address the challenges associated with disseminating information.

By generating fewer paper-based documents and electronically managing their access, retrieval and disposal of paper, the University of Miami has only been able to free up more and more resources associated with producing and distributing reports, it has also been able reduce the costs associated with storage of those paper documents while putting an end to delays and expense caused by their inefficient retrieval. Furthermore, by digitizing its document archives, the University of Miami has reclaimed valuable on-campus space for additional offices while gaining strategic advantages in terms of business continuity—absolutely mission-critical in a region threatened regularly by hurricanes.

A dynamic, secure and timely information distribution platform, RSD is also absolutely reliable. Since 1998, RSD has served as the backbone of the University's enterprise information governance strategy and has continuously delivered value. Using RSD, the University can confidentially control potentially decades-long document lifecycles from creation and distribution through to storage and disposal. These functionalities have brought substantial and sustained operational savings in terms of reduced and avoided costs and increased process efficiencies, as well as strategic benefits through information security and compliance with mandated data privacy regulations.

Using RSD, the University of Miami has centralized their business document delivery, management and archiving which has streamlined information processes and reduced costs, resulting in an impressive 532% ROI in ten years.



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“RSD eliminates the need for us to run jobs over and over again... this is critical since CPU and MiPS are at a premium.”

—James Balter,

Senior Business Systems
Analyst,
University of Miami

Challenges

- Replace outmoded microfiche archiving
- Compliance with state and federal data privacy regulations
- Dissemination and sharing, of information while ensuring appropriate access and security at a reduced cost
- Delays caused by inefficient workflows and manual procedures
- Limited physical space for storage of paper records; costly document retrieval and disposal processes
- Risk of business interruption caused by natural disasters; risks to document safety
- Limited IT staff to administer solution

University of Miami Business Challenge—*Governing information and delivering academic excellence*

The University of Miami is focused on creating knowledge and maintaining its status as one of the nation’s leading private research universities. The University’s administrative and support staff strive to provide the highest level of customer service for students, parents, employees, alumni and all the audiences that the University serves.

In 1998, the University began to look for a solution to replace its microfiche document storage and management across the organization. Microfiche is, in essence, a clever technology from the last century which stores photographic miniatures of documents on film. In principle, microfiche does present advantages for reducing the volume of documentation to be archived because many pages can be stored on a single plate. However, the image immediately loses some quality upon capturing and the medium is difficult to use: besides requiring special readers to view the material, manual searches are tedious and there is a huge risk of misfiling. The University of Miami sought to eliminate up to 30 reader-printers as well as the costs, time and labor associated with producing and managing its microfiche archives.

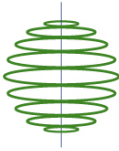
But even the microfiche logjam was downstream from the problem source, which was the massive—and ever-increasing—production of documentation inherent in running such a large, complex enterprise as a university. Committed to a sustainable future and to environmental literacy, the University of Miami desired an environmentally-friendly solution that would curb its overall paper consumption and help avoid tons of paper waste.

The University of Miami also wanted to decrease the up-front labor burden and data sensitivity problem of manually printing, bursting, stuffing into envelopes and distributing its major business reports. Not only was this costly (couriers and staff), it also involved significant time delays, easily 8-14 days. Researching historical requests also took a lot of time and interrupted work flows.

As users demanded information faster and wanted it customized to their needs—without having to wade through irrelevant pages of large reports—the University of Miami realized it needed to provide for information sharing in a more secure, protected way that would manage and track the complete document lifecycle, from creation to retention, storage and disposal. This is important to ensure compliance with regulations such as FERPA (Family Education Rights & Privacy Act). However, by generating fewer paper-based documents in the first place and managing their access, retrieval and disposal electronically, The University of Miami would also be able to reduce costly storage and inefficient retrieval of documents.

Last but not least, the issues of document safety and business continuity are critical given the University’s South Florida location and the frequency of hurricanes in the region. As long as documents and archives were paper- or microfiche-based, the University was inordinately exposed to these natural hazards. This risk became reality in 1992 when Hurricane Andrew blew the roof off of one of the University’s buildings, soaking some sensitive documents which then required freeze-drying to salvage—a brutal wake-up call.

In what started as a search to replace microfiche, the University of Miami discovered in RSD a dynamic, secure and timely information distribution platform that has, over the course of ten years, evolved into the rock-solid core of its enterprise information governance strategy. Implemented first in the areas with the highest-volume document-driven processes, purchasing and payroll/accounting, the solution quickly led to reductions in operational costs and gains in process efficiency.



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“Very reliable and stable solution – it just works.”

—Freddie Robinson,
Director,
Technical services IT,
University of Miami

Selection Criteria

The University of Miami chose the RSD solution based on its ability to offer:

- A leading information governance platform that could handle the expanding, demanding requirements of a world-class university and medical school
- A user-friendly solution with advanced capabilities
- A robust, scalable and reliable solution that conserves computing resources
- Huge cost reductions through resource savings
- Access control and audit trails to comply with data privacy regulations
- Increased productivity through process efficiency
- Reduction in carbon footprint

Once they saw the benefits that the RSD solution could bring in terms of information dissemination, resource savings, and ease of compliance with regulations, other departments demanded access as well. However, this has not overloaded the University’s IT center—although RSD has now been rolled out to 4,000 users in 120 departments across the University—as the solution still takes up less than 6% of computing resources and does not require special training for new users. Fully implemented in only three days, RSD has never gone down once in ten years.

On all fronts, the low-cost solution has proved a very wise investment indeed, reaching its payback-point in just thirteen months after its initial roll-out. Over time, the University has reaped substantial and sustained operational savings through reduced and avoided costs and increased process efficiencies, as well as strategic benefits through information security, business continuity and compliance with data privacy regulations. Due to RSD’s extreme scalability and minimal CPU footprint, these benefits will only continue to grow as additional departments embrace RSD.

Business Benefits—Savings through operational value

High-impact cost reductions and resource savings

Reductions in resource demand of all kinds—paper, printing, distribution, storage, disposal, outside services, and manpower—contribute to the operational gains enabled by the RSD solution.

- Eliminating the purchase and maintenance of microfiche archiving has resulted in a savings to the University of \$250,000 per year
- By enabling electronic document management, the University of Miami has been able to cut its annual paper budget from \$1,000,000 to under \$75,000 – or 90%. This has eliminated the printing of 40,000 to 60,000 pages monthly, as well as the need for tens of thousands of pre-printed, 9-part carbon copy purchase order forms
- Avoided off-site storage, retrieval and disposal of paper documents which now save the University of Miami another \$1,000,000 annually
- RSD has enabled the University to reclaim 1,200 square feet of on-campus office space formerly devoted to filing cabinets and avoid significant future costs by re-purposing the existing furniture
- The reduction in printing documents has enabled the University of Miami to re-purpose 9 FTE (3 X 3 shifts) formerly dedicated to running the Xerox Bull printing facility
- RSD enables the University of Miami to bring color printing (for 18,000 recipients) in house, avoiding outside “retail” printing costs
- Additional, temporary surges in human resources and document storage space during the enrollment process have also been avoided
- In the Medical Center alone, avoided shredding costs now account for \$5,000 yearly savings

Process efficiencies gained, shorter cycle times:

The speed of accessing reports electronically, coupled with the ability to cut and paste data directly from electronic reports, has dramatically increased productivity and data accuracy.

- RSD helps to lessen the inherent error rate by delivering up-to-date information in more usable forms and on a more dynamic level



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“Being able to copy and paste directly from the RSD reports has revolutionized how we do our work.”

—Derek Cespedes,
Original RSD
Support Team,
University of Miami

Strategic Benefits

- **Eliminated audit concerns over sensitive documents not being shredded (e.g., payroll=600K pages / yr)**
- **Documenting donations same day vs. up to 7 days**
- **Minimal IT training required—system is intuitive and straight-forward**
- **Eliminates the need to run multiple jobs—run once and done!**
- **Greater functionality and customer service with search**
- **Greater acceptance of students, improved student application review y eliminating manual processes**
- **EDI check images allow for storage in RSD and other Document Management systems for UM wide access**

- Now 10% of content stored in the document management system is generated directly in RSD, freeing up significant human resources for other tasks
- Errors caused by re-keying data can be avoided, because it is now possible to cut and paste or export directly to excel—no manual data manipulation or transposing required
- Search capability added to formerly static, paper-based content helps improve customer service
- Report distribution time has been shortened from 8-11 days (average) to at least same-day, if not within minutes
- RSD has substantially streamlined important document-driven processes
 - The entire purchase order (PO) process has been improved. Previously, it could take up to 12 business days to process a PO, but now with RSD it takes less than three days
 - The University of Miami is now able to reconcile its checkbook daily, as opposed to weekly or monthly before RSD. Check images (front and back) are now fed directly into RSD and stored along with auto-reconciliation data—no need to wait for a CD from the bank with this information. This improvement is significant because the University of Miami processes a volume of approximately 15,000 checks per month, which are now viewable online
 - The University of Miami is now able to report donations daily—an important revenue source for any university—upon receipt; previously this could take up to seven days

Conserved computing resources:

RSD scales to meet the needs of the entire University’s vast information reporting and dissemination needs with efficiency and security.

- RSD obviates the need to run multiple mainframe jobs in order to produce individualized sub-reports. After the comprehensive, detailed report has run once, it is then parsed using an attributor to provide personalized reports without causing an additional burden on computing resources. At the University of Miami, this has done away with over 100 reports running on the mainframe which consumes valuable CPUs and MiPS
- Historical reports previously could take up to five days to produce. With RSD this can now be done immediately or, in a worst-case scenario, overnight
- As compared with other solution platforms, RSD requires a relatively small team to manage—in the case of the University of Miami, this is just 1.5 FTE

Strategic Benefits—*Image, accountability, business continuity, and compliance*

RSD has helped the University mitigate business risk by providing the information governance tools and framework necessary for greater collaboration and business continuity while enabling data accountability.

- Use of RSD has eliminated audit concerns over the timely disposal of sensitive documents (e.g. 600,000 pages per year of payroll documentation). Purging of files is now done electronically



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“It makes all the difference in the world to be able to send reports electronically with RSD. With RSD, work can now be performed remotely.”

— Daisy McNelley,
Long Distance
Services Manager
University of Miami.

Economic Benefits

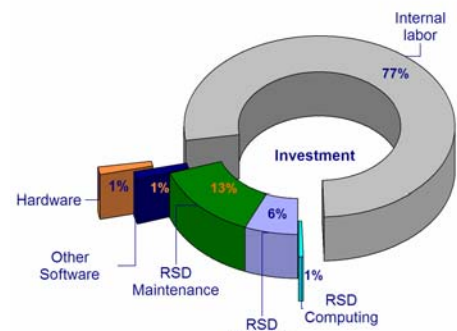
- Reduced paper costs by 90%
- Reduced courier and delivery costs by 75%
- Eliminated the need to re-run reports to provide additional copies (consuming CPU and MiPS)
- Reduced off-site storage and retrieval costs by 60%
- On demand printing for some of the business' color printing
- Eliminated Microfiche printing, supplies, storage and maintenance

- With the DMAS integration, the University of Miami can proactively distribute or remind the recipient of report availability, providing filtered views to protect data privacy. Security levels are assigned by function and verified by ID, so the University now has full control over who it allows to see sensitive documents (such as payroll and student data), as well as an audit trail for access, sharing, storage and disposal of information. This is necessary to comply with federal and state data privacy regulations, including FERPA
- Use of RSD has led to a document storage and retention policy. Now, the full document lifecycle is managed with RSD and users must start with the end in mind—What are we storing? Why? For how long?
- In the event of a natural disaster that damages facilities, RSD can be up and running in 24 hours at their business continuity site. The backup is continuously updated on an hourly basis and greatly fewer physical archives are at risk
- Thanks to RSD, student enrollment is now an electronic process. This feature is preferred by today's students and simultaneously reduces the overall cost and effort while resulting in timelier acceptance of students.
- The centralized solution for distributing reports university-wide also shrinks the University's carbon footprint by moving it closer towards paperless business. The University of Miami not only saves those direct resources and the resulting waste, it also cuts down on the energy necessary to operate associated printing, transportation, and heating/cooling equipment

Quantifying the RSD Investment

A breakdown of the University of Miami's investment is depicted in the following figure:

- The purchase of the RSD software, specialized computing and maintenance accounts for 27% of the total investment
- Nearly 73% of the investment was attributed to internal labor (over the entire ten-year study period)
- Additional expenditures for hardware and other software were minimal

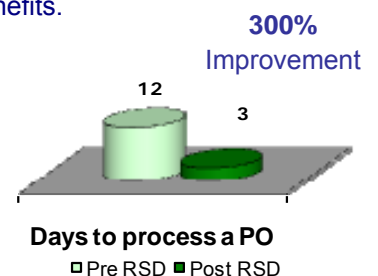


Built-in Value of the RSD investment—Greater efficiency, reduced resource use

By helping UM to improve performance and productivity in document-driven processes, RSD has brought significant operational benefits.

Efficiency Gains

- With digitization and electronic delivery of purchase orders as enabled by RSD, PO cycle time has been shortened from 12 to just 3 business days





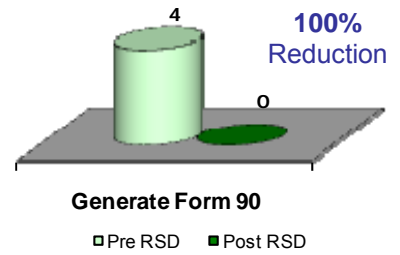
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“Before RSD it took a week to manually perform annual budget planning for telecom – now it can be done in one day.”

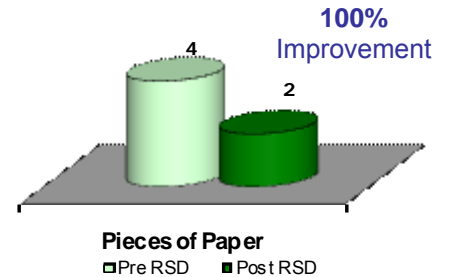
—Sharlene Fuentes,
Manager Business
operations, IT, University
of Miami

- Financial Accounting has reduced how often the “Form 90” (a vast report of some 40,000 pages) needed to be printed from 4 times per month to zero; now it is generated once and stored in RSD for future reference/use

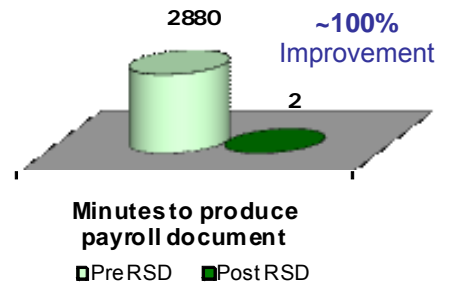


Operational Gains

- Purchasing department has reduced its paper usage by 50% when producing a Purchase Order with the necessary copies needed for approval. From 4 pieces of paper per Purchase Order down to 2



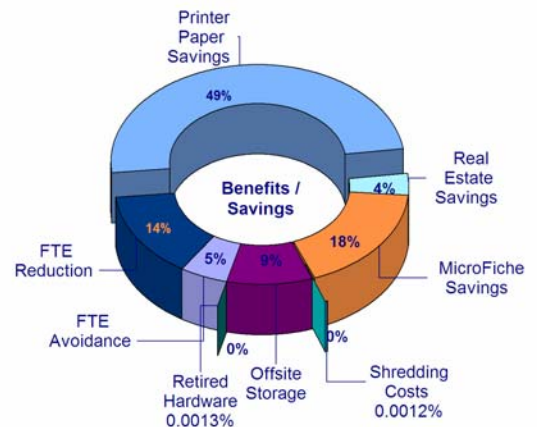
- Improved service: the Payroll/ Accounting department now can reproduce a W2 or a 1099 form on demand or in minutes, versus a minimum of two days previously. Also eliminated the need to produce a “file copy”



Quantifying the Benefits Achieved from University of Miami’s Investment

Thoughtware Worldwide’s analysis showed that UM’s investment in RSD has delivered significant cost savings. The following illustration shows some key economic benefits which contribute to the 532% realized ROI.

- Cost savings**
By digitizing many business-critical documents and reports, RSD helps UM save significant quantities of paper, contributing 47% of the overall economic benefits from the solution.
- Human resource savings**
Avoidance of additional head count and re-assigning of manpower account for 14% of the cost benefits produced by the RSD solution.
- Real Estate Savings**
By avoiding the storage and physical filing of paper documents, UM has been able to reclaim and re-purpose real estate, accounting for 22% of the overall savings.
- Microfiche**
The costs savings attributable to the elimination of microfiche contribute 17% of the overall benefits



Operational Benefits

- Eliminated 40-60K pages printed monthly
- Elimination of 9 part pre-printer carbon purchase order forms
- Proactive, daily reconciliation of check register is now possible with RSD
- PO processing has improved from a 12 day process down to 3 days
- Onsite Color printing available for over 18,000 people
- Same day recording of donations—previously took one week



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“RSD helps with reconciliation and solving vendor disputes – before, it took days to research, now we can do it while they are still on the phone.”

—Else Liauwapau,
Manager,
A/P and Disbursements,
University of Miami

FINANCIAL MEASUREMENT EXPLAINED

ROI (Return on Investment)

- Quantifies how much profit or cost savings will be achieved as a result of the investment
- Discount any future costs/benefits by the Weighted Average Cost of Capital (WACC)
- WACC is an average cost of capital using a combination of equity and debt borrowing
- Demonstrates the overall value of an investment; e.g., is breakeven achieved (100%) or is positive value achieved (101%+; investment plus value)

WACC (Weighted Average Cost of Capital)

$$WACC = E/V \times Re + D/V \times Rd \times (1-Tc)$$

- Re = Cost of Equity
- Rd = Cost of Debt
- E = The market value of the firm's equity
- D = The market value of the firm's debt
- V = E + D
- E/V = Percentage of financing: equity
- D/V = Percentage of financing: debt
- Tc = The corporate tax rate

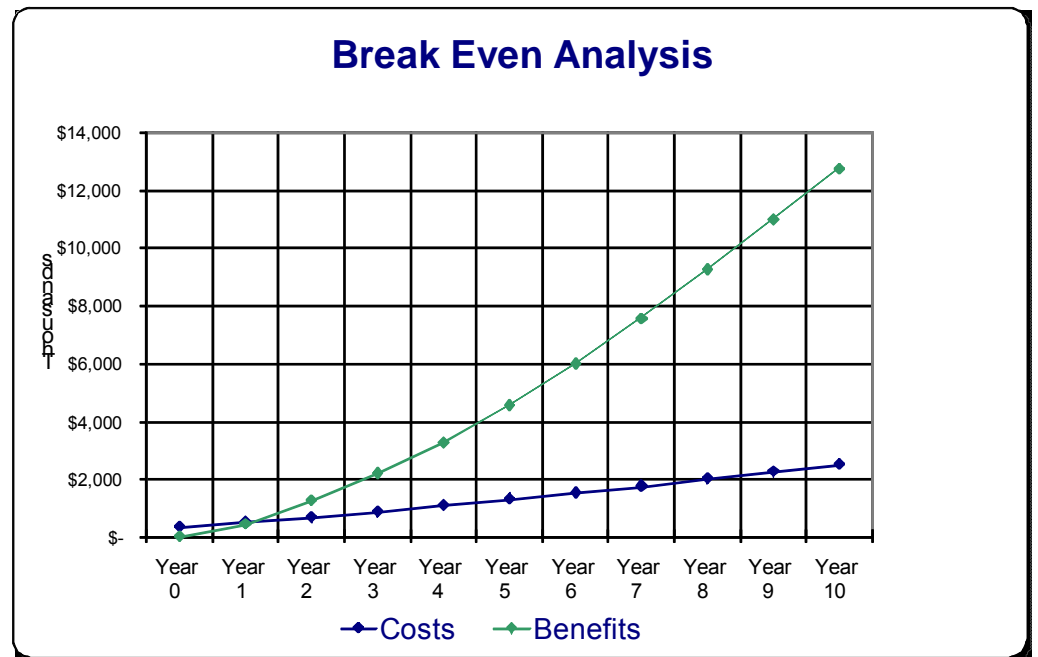
IRR (Internal Rate of Return)

- Discounted cash flow measure of valuation and investing. IRR is the true interest yield of an investment
- Net benefits restated as an interest rate
- IRR demonstrates how quickly an investment generates positive net benefits

Summary of University of Miami Return on Investment (ROI)

The University of Miami's vision was to replace its outmoded microfiche system with a cost-efficient and effective information sharing platform. With the RSD solution, the University of Miami has been able to reduce the expenses associated with paper records production, storage, retrieval and sharing; improve service levels and productivity; and ensure data privacy and document security.

The RSD solution has delivered an ROI of 532% over ten years and an internal rate of return (IRR) of 81%, confirming the quality and value of the investment. As illustrated in the chart below, the benefits of the RSD solution have exponentially exceeded expenditures, reaching breakeven in just thirteen months.





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About the Value Measurement Series

This study is one of a series of investigations into the business value companies have derived from their investment in RSD's solutions. It is intended to serve business executives and managers who are evaluating RSD solutions to improve the way they operate their business leveraging technology.

This case study was commissioned by RSD SA and is based on original research and analysis conducted by Thoughtware Worldwide, LLC., an independent research and information services firm. Thoughtware Worldwide's research included on-site interviews with members of the University of Miami's management team and reviews of company financial and planning documents.

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For more information about this study, please visit www.ThoughtwareWorldwide.com or contact your local RSD office.

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University of Miami Has the Opportunity for Additional Value

During the course of the Thoughtware Worldwide study, the University of Miami team identified a number of additional areas where it could maximize the benefits realized from its RSD investment. Leveraging its RSD Solution, the University of Miami has the opportunity to harvest additional value by:

- Deploying to additional departments throughout the University
- Migrating even more monthly reports to RSD for more secure distribution and to alleviate computing burden
- Eliminating additional storage costs by leveraging RSD as part of information lifecycle management (document retention group)
- Acquiring RSD Folders to provide personalized storage and expand information governance

Summary

The RSD solution is helping the University of Miami to realize its vision of streamlining business processes, reducing resource consumption and waste, and securing information by centrally managing its document lifecycles from start to finish. The RSD solution represents a first-class, scalable electronic information governance infrastructure on which the University of Miami can continue to build in order to serve its students in the most efficient and productive manner possible.