

TRANSFORMATION OF A UNIVERSITY PRINTING SERVICES COPIER FLEET PROGRAM

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ABSTRACT

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Until 2008, the University Printing Services operation was a reflection of many other college and university Printing Services departments within the state. Unfortunately, Printing Services strategies within higher education typically linger behind those in the private sector. Thus, it is imperative that state-assisted colleges and universities periodically assess how they conduct their business of preparing printed materials, offering printing services, and making sustainable changes.

Following the trend of most universities, Wright State University was experiencing a decline in its printing production support to the campus community. Revenues were diminishing at an alarming rate. Printing in departments was declining due to the availability of email, easy access to user friendly print shop software and campus departments absorbing the expense of the rising cost of paper. Outsourcing all or a part of the University printing operation was a viable option that needed consideration.

Early in 2007, the Wright State University Board of Trustees challenged the Printing Services department to develop a more aggressive strategy to lower the cost of printing at the University. The vision was to develop a plan similar to that used in the private sector of business and position the University's Printing Services as one of the best operations in Ohio.

The Printing Services function on college campuses must constantly change to meet the needs of the institution it supports without compromising its integrity or service. We tested our customers by discussing the idea of contracting out our campus copier fleet at the University's monthly Business and Fiscal Officers meeting. It was anticipated that they would have significant negative push back regarding this effort. To our surprise, the effort was embraced by them and the entire University. After implementation of our idea, only two easily resolved complaints from campus departments were made. By changing our cost-per-copy (CPC) program to a lease operation, we have created an annual savings of approximately \$200,000 and a one time cost avoidance savings of approximately \$350,000. Implementation of this best practice idea has allowed the Printing Services Department to satisfy a Board of Trustee requested initiative, accepted and took a financial challenge head-on, and emerged from the effort a stronger, more efficiently operated and focused auxiliary services unit.

INTRODUCTION OF THE ORGANIZATION

Wright State University, named in honor of the famous aviation pioneers, Orville and Wilbur Wright, was founded in 1967 and celebrated its 41st anniversary in 2008. WSU is an Ohio state-assisted four year institution of higher education with its main campus located in Dayton, Ohio, with a branch campus located in Celina, Ohio. The total student enrollment is approximately 17,000. The main campus is located within a 90 minute drive of two major metropolitan areas that include Cincinnati and Columbus, Ohio. We are also adjacent to Wright Patterson Air Force Base and thereby positioned in a highly technical job market.

The University employs over 2,200 FTE's, includes 24 academic and support buildings, with an additional 26 student residential buildings, and geographically encompasses over 557 acres. The University also serves the community with its E.J. Nutter Center, a 12,000 seat multi-purpose arena built in 1990. The academic structure includes 100 undergraduate and 50 Ph.D., graduate, and professional degrees, including The Boonshoft School of Medicine.

The Printing Services Department is a self-funded auxiliary service providing offset and digital printing, composition and bulk mail, bindery services, convenience copiers, and customized promotional items to the WSU campus and a limited number of area public sector and not-for-profit organizations. Previous Printing Services management's philosophy chose copier ownership as the mode

of operation for furnishing copier machines to the campus departments. This business practice tied up a significant amount of capital. The department presently consists of fifteen staff members including a Director. A walk-up Customer Convenience Center called Wright Copy is centrally located in the University's Student Union retail area.

STATEMENT (RESTATEMENT) OF THE PROBLEM / INITIATIVE

Financially, the Printing Services department at Wright State University operated at a deficit for many years. The purpose of the recent analysis and evaluation of the operation was to determine the reasons for the significant negative balance and to establish the department's future purpose, direction and objectives. The planned outcome of our top to bottom organizational review was to recommend improvements that will lower overall costs, increase efficiency, and enhance product quality and customer satisfaction. Where feasible, consideration needed to be given for contracting with external print suppliers. The organization's difficulties were exacerbated due to the lack of consistent and stable leadership. Internal to the organization, several individuals had strong production experience and only one had solid experience regarding the business and financial aspects of the operation. No one person within the department possessed a balanced background regarding technical, managerial, leadership and experience skills needed for the Director's position. To fill in the gaps of Printing Services expertise and skills, an external consultant with experience in the higher

education printing arena was employed to assist in our analysis. After reviewing several recommended consultant's resumes that met our job requirements, the ChambersManagementGroup was selected to assist us.

DESIGN

The University copier management program presented a major opportunity to improve the financial position of the Printing Services department. The existing program consisted of approximately 125 light-lens (analog), digital monochrome (black toner) copiers and five dual-function (full color and black only) devices producing over 9.9 million prints annually in various campus departments. The copier's ages ranged from two to ten years old with an average age of six years. As stated above, the previous Printing Services department management philosophy was to purchase their copiers but this trend lessen in the last few years. Within the last five years, 20 machines were leased from several copier vendors. These leases were three, four and five years in length and included a base quantity charge for copies per machine.

The new direction we chose to pursue was to partner with a contractor in a program called cost-per-copy (CPC) program. In our CPC model, the university identified the required features for the devices, provide historical volumes (copy counts), and the contractor agrees to provide all the equipment and parts, maintenance and services for a fixed cost per copy. The University agreed to

commit to a base minimum number of 660,000 black and white images at a cost of .025 cents per image annually. Overage, copies produced over our base amount, are priced at a lower rate of .0077 cents per image. Our new CPC lease would be five years in length.

A breakdown of our previous copier fleet by volume was as follows:

Average Monthly Volume	Number of Devices
0-999	17
1,000-4,999	65
5,000-9,999	27
10,000-14,999	6
15,000-24,999	9
Over 25,000	6
TOTAL	130

The copier capabilities (minimum output speed) furnished by our potential contractor was configured based on historical average monthly volume. In some cases the University specified the placement of devices capable of somewhat higher output than the average monthly volume indicated. Our printing speed specifications for all copiers were as follows:

0 to 99 copies per month	15 copies per minute
1,000 to 4,999 copies per month	25 copies per minute
5, 000 to 9,999 copies per month	35 copies per minute
10,000 to 14,999 copies per month	40 copies per minute
15,000 to 24,999 copies per month	50 copies per minute
25,000 to 49,999 copies per month	60 copies per minute

Equipment specifications essential to our program were outlined in detail. Some of these specifications included: Electronic auditing/billing with the capacity to track at least 200 accounts; all equipment will include an internal copy control process to gather printer and copier use and account information electronically; all equipment must be capable of at least 600 x 600 output resolution; the equipment must operate seamlessly with the University network architecture using different output from different platforms and the ability to gather electronic print information from all potential users; establish a copier identification number for all copier work which in-turn will be linked to a billing account; copiers have the ability to set print queue preferences (multiple jobs from the same source) and manage work originating from multiple sources on the multi-function copier device; allow remote diagnostics and status reporting allowing a remote administrator to check paper and toner levels, operational status, and other activities; and the copier devices must have a security feature(s) that prevents files remaining on the hard drive and being accessed by unauthorized individuals.

Contractor service and maintenance hours were a critical part of our bid award. Service, preventative maintenance, emergency calls, parts and all other services required to keep the copiers fully operational and maintained in good working order, including network printing in the current environment must be performed in a manner consistent with the highest accepted industry standards. The University reserved the right to prioritize all service calls, if necessary. Otherwise, service calls will be performed chronologically. The contractor is required to maintain complete service records detailing the device serviced, response times, time needed to affect the repair and the problem diagnosed. Our contract requires the contractor to keep backup (loaner) devices on site should the repairs require more than three days to accomplish the work. Copiers experiencing more than three service calls in a given month for the same issue will be replaced with a like-for-like device at no additional expense to the University. The contractor's initial response time for a service call must be within three hours on weekdays. Service calls on weekends are allowed to wait until Monday.

For our copier program, the contractor included in their charges the cost of labor, travel, supplies, replacement parts including but not limited to toner developer, fuser supplies, drums, blades, organic photo conductors, safety retrofits, rollers, belts, corona wires, platen, sensors, lenses, lubricants, preventative maintenance kits, software and upgrades, programming, emergency call, and all other parts

necessary to repair the machines when the work is not caused by customer abuse or neglect. Paper and staple costs were not included in the contractor's bid proposal.

IMPLEMENTATION

A detailed Request for Proposal (RFP) was prepared with the assistance of our consultant and sent to 18 vendors. Nine companies responded to our bid. Four finalists were selected and invited to make presentations providing evaluators with further insight regarding their proposal, clarify any issues and explain details of their bids. The company selected was a distributor for Lanier brand copiers. Lanier is a well manufactured, durable and popular copier in the industrial and business community. A survey of 20 colleges and universities with leased copier management programs found the average all-inclusive cost-per-copy (excluding labor and paper) to be .0196 cents per copy. The bid ranges were .013 to .028 cents per copy. Depending on the configuration of the equipment, .02 to .03 cents per copy was a reasonable expectation from bidders.

The successful contractor was required to replace the leased and owned devices with digital multifunction devices of appropriate capacity for each location. New copiers were to be multifunction and include scan, copy print, and FAX functionality. Required functionality included but was not limited to:

- Direct print/copy "off the glass"

- Direct online print/copy
- Scan to Print-scan one, print many functionality
- Scan to FAX
- Scan to Email
- Scan to document storage
- Scan to Adobe®PDF
- Scan to Optical Character Recognition (OCR).
- Scan to TIFF

The system and equipment placed under our contract must be scalable, meaning that the equipment must be expandable as our University needs and demands change. The University agreed to work with the successful contractor to review the equipment usage periodically to ensure that the appropriate equipment is in place. With the agreement of both parties, the equipment installed may be relocated to meet the changes in demand. From time to time, the University may be required to increase the number of copiers on campus due to new departmental relocations, change in mission or acceptance of new research or educational grants. Any new service including the cost-per-copy rate are at the same rate charged for devices installed under our initial contract less an allowance for capital recovery. There are approximately 25 copy machines connected to our campus one card program. The contractor is responsible for supplying the copier wiring harnesses needed to connect these units with the one card readers. The University supplied the card readers for these machines. The

contractor was required to provide an upgrade path, which assures the University of at least three years of useful life of the equipment. Also, we included a remedy for situations where there is reduction in demand at a particular machine.

Where appropriate, our proposal directed the contractor to provide recommendations for combining laser printer and copier output. The contractor was required and is responsible for disposing of used toner cartridges and other parts in compliance with appropriate state and federal laws and guidelines. Per the terms of our agreement, the contractor is also responsible for removing and destroying any media storage capabilities installed in devices when they are removed and securely erasing all of the data stored on any of its media storage devices which may be part of the equipment they installed.

The University requested the contractor designate a person as a single point of contact. The single point of contact is expected to be fully trained and knowledgeable of the contractor's equipment and technology, including document scan functionality, and be responsible for all first-level communications between the contractor and the University's copier program representative. The single point of contact will be empowered by the contractor to escalate problems and issues to appropriate parties within the company. In the event that the contact is unable to resolve a problem and/or issue, the University reserved the right to escalate the problem and/or issue to appropriate regional or national contacts. The vendor was required to provide a brief profile of the primary

contact that will be managing the account as well as names and contact information of appropriate corporate leadership (division and regional managers of sales and service).

On-site demonstrations regarding network, scan, print, and copy functionality for the users at each University department copier location was provided at no cost to the University. Additionally, two free-to-all demonstrations regarding the copiers functionality was made available to all University employees.

BENEFITS

Centralized copier management programs using pooled, institution-wide volumes in the negotiation process with copier vendors offers several advantages:

- Reduced overall costs
- New equipment
- Standard feature sets at the copier machine level
- Expanded functionality at the program level scanning
- Campus network opportunities to all copiers
- Reduced management and labor costs since students or staff did not have to make monthly copier meter readings.
- Equipment is matched to the demand at the location

All of these advantages are delivered at no increased cost to the University

customer.

Previously, expenses associated with to Printing Services furnished copiers included items such as hardware, service, supplies (staples, toner, & parts) and labor. This expense was calculated to be \$.035 per image click. In our CPC contract, the contractor will be responsible for providing all the equipment, supplies and services. The saving realized from this change is approximately \$.01 per image. Using our current annual image volume of approximately 9.9 million, an extrapolation of revenues and expenses in our new CPC copier program as compared to our previous program results in a total projected annual savings of approximately \$100,000.

A Repair and Replacement (R&R) financial account was established and funds were reserved in this account annually to purchase new machines. Programmed contributions were approximately \$100,000 for copiers and related equipment replacement. The reservation of these funds were discontinued and incorporated into the overall Printing Services budget. The closing of the R&R account results in a one time savings in the amount of \$350,000.

New copiers have replaced many older less efficient copiers, which will produce additional savings. A long range plan of the University is to reduce the number of ink jet desk copiers on campus. Currently the University is spending over \$300,000 per year on ink jet cartridges and laser jet toner. Studies have shown

that the cost-per-copy on a centralized networked copier machine is approximately 50-60% less than the cost if printed on a desktop ink jet or laser jet copier. In our previous copier program, the departments were responsible for purchasing the toner for their copier machines. In our CPC program, this is the contractor's responsibility resulting in additional savings for the University. Until further experience is gained, savings in all these areas will be difficult to measure, but it remains evident our new program will have a positive financial impact for the University as this initiative develops.

The re-engineering of the copier program provided the opportunity to revisit workloads of the Printing Services staff that supported the previous program. The previous program was maintained by one full-time employee and three part-time student employees. The new contractor is required to provide all of the services these employees performed, including meter reading and first level technical support.

In summary, an examination of all direct and indirect costs associated with buying replacement copiers versus a lease program confirms our commitment that it is more cost effective to lease all campus copiers and permit a contractor to manage the University Printing Services program on a cost-per-copy basis.

RETROSPECT

In retrospect, a major task we would have accomplished differently would be to allow more time for implementation the exchange of our older copiers with the placement of new units. Due to the significant number of copiers required for our campus, the contractor needed more time than they anticipated securing financial banking support and establishing lead time for machine delivery from the manufacturer. This delayed the start-up of our program. We planned our exchange in three phases over two full months. This was an insufficient amount of time to complete this work. At the same time, we organized departmental and two open-to-all campus training classes for those University employees who would be using the machines on a daily basis. These tasks were broader in scope than we and the contractor anticipated or planned. Essentially, our training program was too early for some departments before the new copiers were put in place. Also, after the departments realized the improvements and new functionality of the new machines, they became more anxious and wanted to move through their orientation program and use of the machines features quicker than Printing Services and the new contractor could respond to their needs.

The University Information Technology (IT) department responded very well to the new requirements and demands of our new equipment on the campus computer network. However, they could not devote sufficient staff or designate one person to work solely on this project. Networking the copiers involved more

designated time by the University IT department and the contractor both anticipated. In addition, many more departments needed to be connected to the campus network than we had planned in order to achieve and use the copier's maximum capability. Some departments quickly realized that once they networked our new copiers to their desktop computers, there was no need to keep their ink jet copiers. Later in the process, we learned that network copiers provided labor savings tasks for Printing Services and the contractor through the installation of an "at remote" accounting and maintenance software package on the University network system. This software allows for monitoring of the machines status by Printing Services and the contractor. Protection and enforcement of proper procedures regarding the campus network security was an unexpected obstetrical that took a considerable amount of time to resolve.