ANYWHEREPRINTS PROJECT SUMMARY: DECEMBER 2017

Throughout 2014 and 2015 a systematic review of printing practices on NIU's campus revealed a number of costly and dissatisfying aspects of printing as a service. As a direct result of this review, the IT Steering Committee approved the AnywherePrints (AWP) project in 2015 as an effort to help divisions understand their own printing cost and opt into shared print devices as a way to reduce costs, increase quality, add features, realize environmental benefits, and pave the way for business practice modernization.

The revised state of printing as of December 2017 is now generating **over $1 million per year in recurring savings** for the university as compared with the FY16 baseline. This summary update, the last anticipated for this project, details the source of these savings and evaluates the performance of the project against its defined scope and objectives.

MOTIVATIONS

In early 2015, there were a number of factors driving the need for widespread reform of the university's stance towards print. The categorical areas of difficulty included student opinion, fiscal sustainability, operational visibility, features and performance, as well as support for more modern, electronic business practices. A complete review of the issues isn't warranted in this summary. However, a brief discussion of some motive forces can enhance the appreciation for why the university needed a revolutionary approach to printing.

Student use of AnywherePrints goes back at least as far as FY12. In fact, AWP was implemented with the idea of helping reduce waste in student printing by imposing a limit on the number of free prints. Over time, this limit was gradually reduced, disappearing altogether in Fall 2016. Student printing fell over 3M pages per year with the introduction of pay-as-you-go printing and has continued to decline.

With the announced reduction of free printing, students rallied to extend the quota but also to expand their AWP options. They called for more printers in more locations, lower print costs, better reliability, and less required printing from instructors.

At the same time free student printing was being phased out (FY15-FY16), DoIT analyzed the state of employee printing by doing extensive walkthroughs campus buildings, capturing ink and toner inventories, printer models, and print volumes. With around 3000 printers on campus, the university was overprovisioned with individual printers by any reasonable standard. Additionally, NIU had no standard make or model of printing. The result of this ad hoc approach to individual printing was that the university could not make volume purchasing agreements for printers, ink, or toner. Additionally, sharing printers and spare parts between divisions was not common practice, resulting in increased downtime when printing problems arose. Finally, DoIT learned that the common practice among departments that did small volumes of printing was that they would often buy the cheapest model of printer whenever a need arose, thereby stranding all of the surplus ink and toner in cabinets and shelves because ink and toner are often specific to a particular printer model. This practice was verified through physical inventory representing a loss of tens of thousands of dollars in just a subset of all buildings.

From a financial perspective, the inventory taught us that the bulk of NIU's printing was being performed in the most expensive way possible: through personal print devices. But worse, most departments did not track printing as a separate cost and many print expenses are made through p-cards. These factors combined to make the analysis of print cost, either in total or on a per-page basis, an effective impossibility for most departments. This doesn't begin to mention inconsistent or nonexistent tracking for the indirect costs of printing such as the time spent by IT, procurement, materials management, and others.

Still, the best estimates from April 2015 showed that the university was spending $1.7M/yr on individual and departmental printing on over 3000 devices at a rate of over 24 million pages per year. DoIT's business case proposed a large-scale reduction in individual printers for a total cost savings of approximately $700,000 per year. Or, by allowing a 50% exception rate, the total cost savings could remain as high as $500,000 per year.

THE EARLY PROJECT

The early stages of the AnywherePrints project allowed each division to decide whether to implement shared printing and realize voluntary cost savings. These cost savings were developed in partnership with each office, beginning with the estimated or actual print volumes, working through recommended shared printer placements, and then leaving management to decide whether to move from individual to shared printers.

Beginning in late 2015, the project worked through DoIT, the President's Office, the Provost's Office, and the Office of the VP for Enrollment Management in the course of a year. Along the way, DoIT conducted surveys of faculty and staff to learn more about their impressions of printing and more importantly, shared printing.

Student opinions about printing revealed that cost was their primary concern, especially for color prints. However, students also expressed dissatisfaction with the amount of printing required for course materials and assignments, the environmental impact of printing, system reliability, and the number of available AnywherePrinters.

Early adopters in the faculty and staff areas noted several advantages to AnywherePrints as compared with individual printing:

- Higher quality printing and in some cases, additional finishing options such as collating and stapling
- The ability to eliminate replacement costs for scanners and fax machines from their budgets
- Dramatically reduced printing costs in areas that were tracking print expenses

An early 2016 survey (n=770) revealed that 85% of respondents who had an individual printer said they also had access to a shared printer. 70% used shared printers to scan documents to email.

- Employees were evenly split on whether it would be possible to reduce their printing if they had access to electronic workflow or electronic signatures.
- Among faculty specifically, 77% were interested in reducing campus print volumes. 55% required no printing of course materials and 29% required no printing of assignments.
- Among students specifically, 83% were willing to reduce their printing but 50% of students felt that faculty drove their printing requirements and therefore they might not be able to cut back. Other students concerns included cost and the reliability of the AWP printers.

THE ACCELERATION

After a year of working through the AnywherePrints project, NIU underwent another round of budget cutting. DoIT evaluated the current progress of AWP and the promised savings and proposed that an acceleration of the project, from a voluntary effort that would take years to complete at the current pace, to a mandatory project that would eliminate 50% of personal printing within a few months, could be beneficial. Under this scenario, NIU would see current (FY17) savings and would be accruing at the full $500k/yr rate by the beginning of FY18.

After review at the IT Steering Committee, Operations Cabinet, and Senior Cabinet, this plan went into effect around September 2016. Two full months of planning was needed to modify the staffing and logistics associated with the project acceleration and as that work got underway, the various shared governance committees were presented with the work plans as they were evolving. The project website (go.niu.edu/printproject) constructed during that time period remains an invaluable source of information about the project, including an extensive FAQ section.

Early adopters began moving toward shared printers in November with late adopters mostly finishing in February and March of 2017. By the time tracking began in January 2017, over 500 individual printers had been taken out of service as compared with the original 2015 baseline. As of December 2017, 1,200 additional individual printers have come out of service. A PowerBI report of printer pickups and exception levels is available at the project website (go.niu.edu/printproject). Of the 732 individual, non-exception printers that remain, the majority are in CLAS and the Office of the Vice Provost. Pickup in both areas is underway.

The current exception rate stands at 29%, exceeding the project goal of keeping the exception rate below 50%.

While the majority of effort in early 2017 focused on the logistics of coordinating with local IT groups to identify the locations of all individual printers, transition to shared printing, and arrange for printer pickup and surplus, Summer 2017 focused on addressing a list of complaints. Specifically, DoIT tackled and mostly resolved issues with:

- Inconsistent card swipes
- Intermittent printer freeze in some models
- Addressing desired default printing options in desktop print clients
- Slow user interface after swiping
- Slow delivery of documents scanned to email
- Paper delivery issues
- Sporadic performance in some models of printer
- Improving security and manageability

While not perfected, the great majority of these issues have been resolved. AWP incidents are reported now at a rate of less than 10% per month (total tickets / total printers).

RESULTS

The university has benefitted from AWP by increasing the overall reliability and quality of its printing fleet. In addition, all faculty and staff now have access to mobile printing options, free scanning, free faxing, better finishing options, and in many cases higher quality paper.

The cost per page for student printing has been lowered substantially, with direct savings to students. Student prints cost 28% less for black and 60% less for color. Employee printing for those who were using AnywherePrinters before the project has fallen too. The cost for black has fallen between 9% and 37% depending on which historic rate the department was locked into. The cost for color fell by just over 50%.

Environmentally, the university has made tremendous strides. The printing industry knows that imposing any form of cost or inconvenience to printing causes volumes to drop substantially. The oft-used figure for this type of reduction in print is 30%. NIU has seen that in its student population and then seen even greater levels of print reduction in its employee population. Annual print volume for FY18 is on target to come in **10 million pages less than our FY16 actual volume**. Those 10 million unprinted pages represent over 1,200 trees covering 23 acres. In fact, it is this behavioral change that has driven the greater-than-expected degree of cost savings for NIU. While shared printers cost lest to operate and maintain than individual printers, the **cheapest page to print is the one you don't print at all**. Those always cost $0.00.

The AWP project estimated a reduction in print behavior of 30%, in line with industry averages. NIU is currently on track to see a **behavioral reduction in printing of between 40% and 45%.** That moves the estimated annual savings from around $700k/year to $1.05M per year. By contrast, the AWP project estimated a printer exception rate of 50% and is achieving a 29% exception rate. Pushing this exception rate down to 20% would increase our annual cost savings to just over $1.1M per year.

However unwanted the elimination of personal printers may have been, there is no denying that the combination of cheaper per-page costs and reduced print volume overall has led NIU to greater savings than our most optimistic forecasts. With tight budgets, going from $500,000 in savings to over $1,000,000 has a direct impact on staffing because **every dollar saved on "things" is a dollar we don't have to save through reductions in salaries**. With positive financial results on top of an operationally stable AWP platform, DoIT considers the project to be a success relative to its goals.

AnywherePrints Program Annual Savings

FY2015		FY2019
$859K 15.7M pages	**Individual and Department Printers** 01 Cost per impression based on manufacturer's published rates	$183K 3.8M pages
$165K 2500 devices	**Individual and Department Printers** 02 Refresh based on 18% below MSRP	$60K 868 Perm Excepted 120 Temp Excepted
$705K 300 MFDs 10.1M pages	**Gordon Flesch Program** 03 Changing Fleet Footprint	$646K 415 MFDs 13.5M pages
$579K	**Labor and Expenses** 04 AnywherePrints and University Departments	$357K
$2.30M 25.8M pages @ $0.089	**Expected Savings** **$1.05M**	$1.25M 17.3 M pages @ $0.072

AnywherePrints
Cumulative Savings