TRANSFORMING HIGHER EDUCATION

HOW TO CREATE A PLAN THAT'S SECURE, SUSTAINABLE AND STREAMLINED

Transforming higher education processes starts with laying the right foundation for your organization's workflow. Many higher education institutions have embarked on education transformation initiatives; however, there is still room for improvement to build a more stable transformation foundation.

According to a recent Center for Digital Education (CDE) survey, the top higher education workflow-related challenges include the need for more training and professional development, workflow solutions, better access to information and documentation, and increased automation.[1]

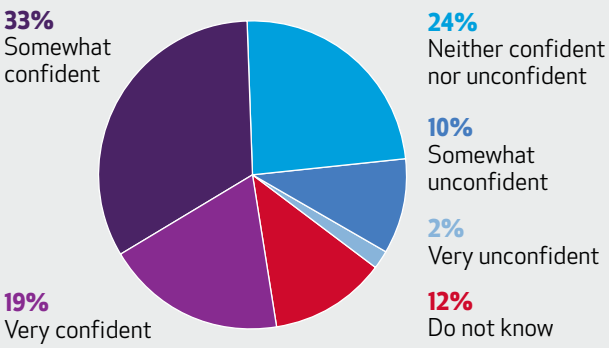
The purpose of this paper is to discuss three foundational layers of digital transformation — security, sustainability and streamlined operations — and how higher education institutions can enable a more seamless transformation effort.

SECURITY

As higher education becomes more dependent on online student registration, and digital content and curriculum, protecting student data has become more critical. The CDE survey found securing student data is a top priority for most higher education institutions, yet only 19 percent of survey respondents said they were confident that their current security protocols and technologies protect student information.

Security is a critical foundational piece to transformation efforts, but many higher education institutions are primarily focused on network protection, essentially ignoring end-point devices. Major security gaps arise when multifunction printers (MFPs) and other devices with varying, decentralized security mechanisms are connected to the network. This issue is exacerbated by the fact that the IT team is not always responsible for print and document management.

HOW CONFIDENT ARE YOU THAT YOUR PRINTING ENVIRONMENT IS SECURE?



There are three security practices that can help kick-start your transformation efforts: implementing role-based information access, protecting personally identifiable information (PII), and ensuring end-devices are secured. Universities and colleges need to implement administrative, technology, and physical controls and training to mitigate these risks. Let's take a closer look at each of these areas:

IMPLEMENTING ROLE-BASED INFORMATION ACCESS

Applying a role-based information access system limits the levels of information access different roles have across an organization. This is a critical first step in a higher education cybersecurity initiative.

In order to institute role-based information access, you must deploy tools that authenticate user identity; decide who can access specific applications and data and how they can use it; and help prepare for compliance audits by showing who accessed files and applications, made changes, printed copies, and transferred files to external storage.

PROTECTING PERSONALLY IDENTIFIABLE INFORMATION:

Systems and processes must be established to prevent PII from being stored, shared, or printed in an insecure manner.

As a starting point, higher education institutions should have:

- Identity and access management (IAM)
- Role-based user access
- Single sign-on (SSO)
- Self-service password management on end-point devices
- Two-factor/multi-factor authentication
- Audit trails and logging software

SECURING END-USER DEVICES:

Physical machines and infrastructure, such as local computers and servers, storage media, printers, scanners, copiers, and multifunction devices are often overlooked in the rush to secure networks, applications, and associated data. Physical controls include:

- Industry best practices for equipment and storage life cycle management
- Software tools and third-party services to decommission old hard drives
- Pull printing features that hold a print job in the queue until the user is authenticated at the machine
- Printer-embedded security software for networked printers

Optimizing the life cycle of your assets begins at conceptual design, and continues through shut down and decommissioning. Failure to institute a life cycle management plan for your end-point assets can lead to future vulnerabilities created by legacy equipment and software that are no longer supported with important updates. Develop a plan that includes relevant equipment life cycles and decommissioning processes that will enable you to swap out equipment before it becomes a liability.

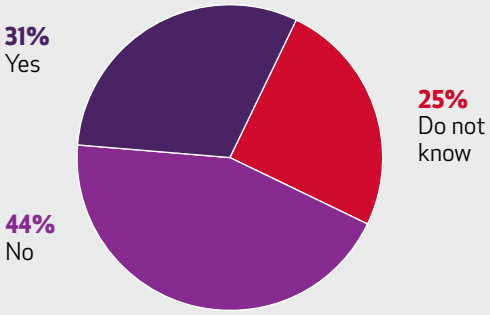
Securing end-point printers can be accomplished by deploying a secure print system, enacting application policies for data that can be printed, and training employees on acceptable use. For example, Canon's uniFLOW is designed to help colleges and universities reduce costs and ensure confidential information is kept secure by enabling IT administrators to control output management — making it easier to secure end-points on a network in a centralized manner.

SUSTAINABILITY

The CDE survey found that 31 percent of higher education respondents are operating under a green mandate. This may be the beginning of a growing trend within the higher education space.

Focusing on sustainability reduces costs and increases organizational efficiencies. For many, an important step towards sustainability means printing only what needs to be printed, when it needs to be printed. Canon strives to achieve the highest environmental standards, with features that help colleges and universities reduce costs and minimize the time necessary to manage devices.

ARE YOU OPERATING UNDER A GREEN OR ENVIRONMENTAL MANDATE?



A recent study by the USGS Water Science Board found it takes up to three gallons of water to produce every piece of paper printed,[2] which means each higher education employee uses the equivalent of up to 30,000 gallons of water per year.[3] Higher education institutions that adopt a print management system allow employees to access their most commonly used documents electronically. Another example is Canon's collaboration with Google Drive.™ Using Google Drive, students can access, store, and retrieve large numbers of documents, which reduces the number of documents printed and lowers costs.

STREAMLINED OPERATIONS

Thirty-seven percent of higher education respondents in the CDE survey indicated that automation and workflow management simplify instructor/staff workloads. Another 36 percent said automation and workflow management help free up employee time for more critical tasks.

Streamlining workflows requires identifying processes that can be digitized and eliminating manual and repetitive operations. For example, the use of scan and capture technologies instead of paper could help a college serve its students faster. It could also mean cutting repetitive processes, increasing accuracy of information, and making information accessible anywhere.

When done correctly, workflow management can reduce operational costs, boost employee morale, and increase organizational efficiency. For example, 40 percent of higher education survey respondents said automation and workflow management simplifies employee workloads, while 39 percent said it reduces printing budgets. It also frees employee time for more critical tasks (36 percent), and helps achieve transparency (26 percent), and environmental objectives (24 percent).

Higher education institutions across the country are focused on new technologies to help reinvent and transform the way they deliver services to students, but their efforts may fall short if they don't first focus on laying a stable foundation. Educational institutions that focus on securing, sustaining, and streamlining their operations to each individual end-point will have a foundation that can be used to realize new benefits.

STEPS FOR EVALUATING YOUR WORKFLOWS TODAY

1

IDENTIFY HOW DATA GETS IN YOUR SYSTEM

Does data have to be entered manually?

2

IDENTIFY THE FLOW OF DATA THROUGH YOUR SYSTEM

Once data enters your system, where does it flow? Does it have to be entered more than once?

3

IDENTIFY HOW EMPLOYEES INTERACT WITH YOUR DATA

Do your employees have to access data from disparate systems?

4

IDENTIFY POINTS WHERE DATA LEAVES YOUR SYSTEM

Do you have to print data to share with students? Can you email it?

Higher education institutions should also keep in mind that cost does not always equal value. The CDE survey revealed that 38 percent of respondents feel that cost is the number one organizational barrier hindering modernization from print-based to digital workflows. This could mean universities and colleges might opt for lower-cost print options. But scrimping on security, quality, or other features can cost more in the long run. For example, failing to incorporate security mechanisms and a rigorous security policy may result in security gaps that expose an organization to significant financial risk. Choosing lower-quality devices may result in frequent replacements, adding to capital investment costs and an organization's carbon footprint.

STEPS TO CONSIDER:

① Form a transformation working group

Engage stakeholders from different parts of your organization — including customer service agents, finance officers, and business unit managers — who represent the users involved in your daily workflows. Use this group to have a recurring conversation to identify, frame, and execute your transformation strategy. Use these meetings as an opportunity to elevate challenges to address and new ideas to test. At a minimum, assemble this group each quarter to have a regular dialogue.

② Do a landscape analysis

Before you develop a transformation strategy, conduct a review of your environment. This includes mapping all your managed services, software applications, and hardware down to your end-point devices, which includes printers. In addition to mapping the devices, it is also important to understand the business processes supported between each of them. Use this landscape analysis to benchmark your current devices and processes against changes you implement as a way to measure and track your organization's progress.

③ Develop a strategy that secures, sustains, and streamlines your processes

After you assemble your transformation team and map your existing landscape, it's time to create a strategy to guide your transformation. A transformation strategy should be composed of at least three short-term goals and three long-term goals within each of the key transformation elements — security, sustainability, and streamlined operations. Short-term goals should be designed to be accomplished before your next meeting (i.e. one-month to three-months); whereas, long-term goals should be able to be accomplished within a school year. You can create goals by functional area or departments and assign them to corresponding transformation group members to provide additional ownership in the process.

④ Measure and adapt

As your transformation efforts progress throughout the year, regularly review and report on your progress with your transformation working group. Let each member that was assigned goals have an opportunity to share challenges, progress, and learnings. Sharing this knowledge as a group will allow you to keep information centralized to adapt quickly if you need to change direction.

TAKE THE PRODUCTIVITY CHALLENGE

For help with your transformation journey, Canon Solutions America has created the Productivity Challenge to help you get started. The Productivity Challenge is an online self-assessment tool that helps organizations understand how they benchmark against industry optimized organizations in five key areas: Print Management, Document Distribution, Document Management, Accounting, and Sustainability. Take the challenge today at http://bit.ly/productivitychallenge.

1. Unless otherwise noted, all data is from a Center for Digital Education survey of 162 higher education leaders, conducted in October 2016
2. USGS Water Science Board / WaterFootprint.org, http://water.usgs.gov/edu/activity-watercontent.php
3. Mashable.com, http://mashable.com/2014/04/22/earth-day-paper-infographic/#wvEPSbSRukqn
4. 2015 Center for Digital Government survey