



Return on Investment Math and Visualizations

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University of Louisville

April 2017

Shared Services – Higher Education Conference

Return on Investment

Agenda

- Introduction
- Framing benefits of change
- Communicating your return on investment
- Questions



NOW

**MORE THAN EVER,
IT'S A GREAT TIME**

**TO BE A
CARDINAL**

Return on Investments

University of Louisville



**Kentucky's premier,
nationally recognized
metropolitan research
university**

Established: 1798

**Accreditation: Southern
Association of Colleges &
Schools Commission on
Colleges (SACSCOC)**

**Athletic Conference:
Atlantic Coast Conference
(ACC)**

**Approximately 7,000
faculty and staff**



A Campus Transformed

UofL's Belknap, Health Sciences Center and Shelbyhurst campuses sit on over 814 acres and have over 9 million square feet of building space



The University of Louisville

UofL is on an upward trajectory that is proving to be one of the top academic and athletic powerhouses in the nation.

- **Over \$1.7B invested across campus in new buildings** – From a top-flight research park to an expansive student recreation facility
- **85 Fulbright Scholars in 11 years** – on par with MIT, Dartmouth and Duke
- **Over \$186M in research funding** – making it possible for UofL researchers to find the answers to cancer, regenerate hearts and help spinal cord patients walk again
- **Economic Impact** – UofL is responsible for \$1.7B in total economic impact on the Commonwealth of Kentucky, about one percent of Kentucky's total GDP.
- **In Good Company** – 2014 entrance into the Atlantic Coast Conference (ACC), UofL joined one of the finest conferences in the nation.

Return on Investments

Existing State Challenges of Financial & HR Transactions



- Do not meet current & future **business needs**
- **Fragmented processes** are complex and confusing; often result in errors and re-work
- **Non-integrated** system applications result in redundancy and manual data re-entry
- **Expensive PeopleSoft customizations** do not allow us to leverage new functionality
- Business architecture does not satisfy end user needs; **customer service frustration**

Return on Investments

STREAMLINING BUSINESS OPERATIONS

UNIVERSITY OF
LOUISVILLE



CENTRALIZED OPERATIONS



AUTOMATED



RESPONSIVE



DATA-DRIVEN



STANDARDIZED & SIMPLIFIED

BELKNAP CAMPUS

Return on Investments

Future State Vision

Create a **Business Operations Center** focused on the following:

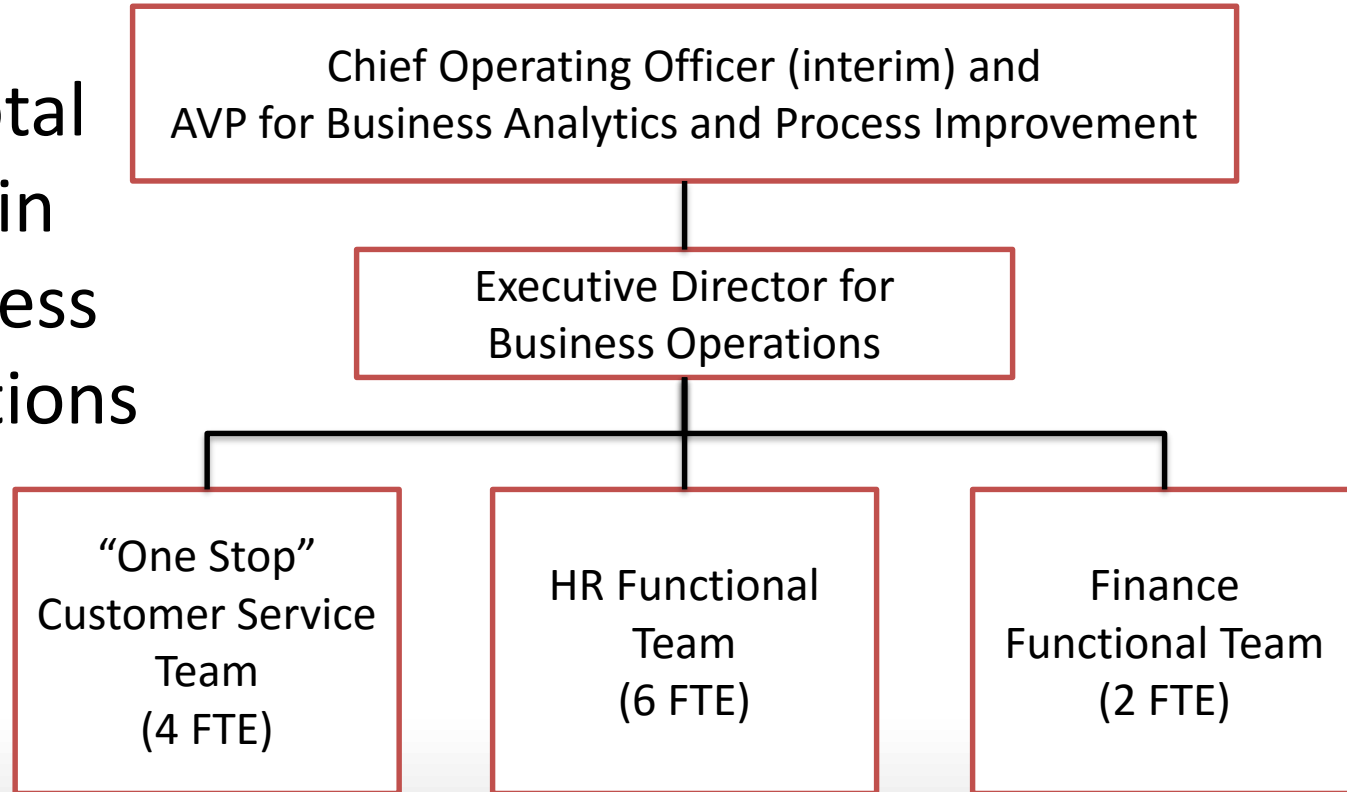


- **customer service**
- **operational excellence**
- **innovative value-added** efficient transactional processes
- **analytics to continually improve** operations

Return on Investments

Business Operations (Phase I)

13 Total
FTE in
Business
Operations



Belknap Campus Shared Services

Focus Areas Workgroups

- Expense Transfers-Billing
- Expense Transfers-Expenses
- Expense Transfers-Payroll
- Leave Management
- Onboarding
- Personnel Actions (JDC,PARs,Add'l Pays)
- Reconciliations-Procards
- Reconciliations-Programs
- Time Reporting-Hourly
- Time Reporting-Monthly
- Travel and Expense



Over **60 employees** on workgroups with over **1000 years** of UofL service

Return on Investments

What are you trying to convey?

Return on Investment

- measures the returns relative to costs

Total Cost of Ownership

- measures the direct and indirect costs of a process/operation

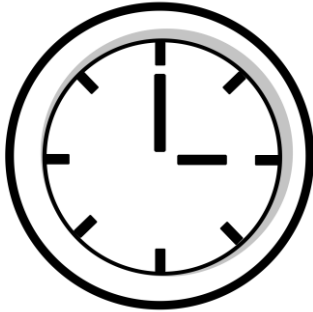
Benefit Cost Analysis

- totaled benefits less the related costs



Return on Investments

How savings are created



- **Soft savings** – savings available for reallocation to strategic initiatives.

- Example: Process requires 50% of a supervisors time to complete freeing the supervisors time to focus on subject area, rather than administrative task



- **Hard savings** – real monetary savings available to apply to cuts or spend on other initiatives

- Example: No longer required to produce paper packets for processes moved online. Automated process requires few staff to manage process which could be managed by attrition.



Return on Investments

Where to start?



"WELL, MAYBE UMPTEEN ZILLION WAS TOO GENERAL A COST ESTIMATE."

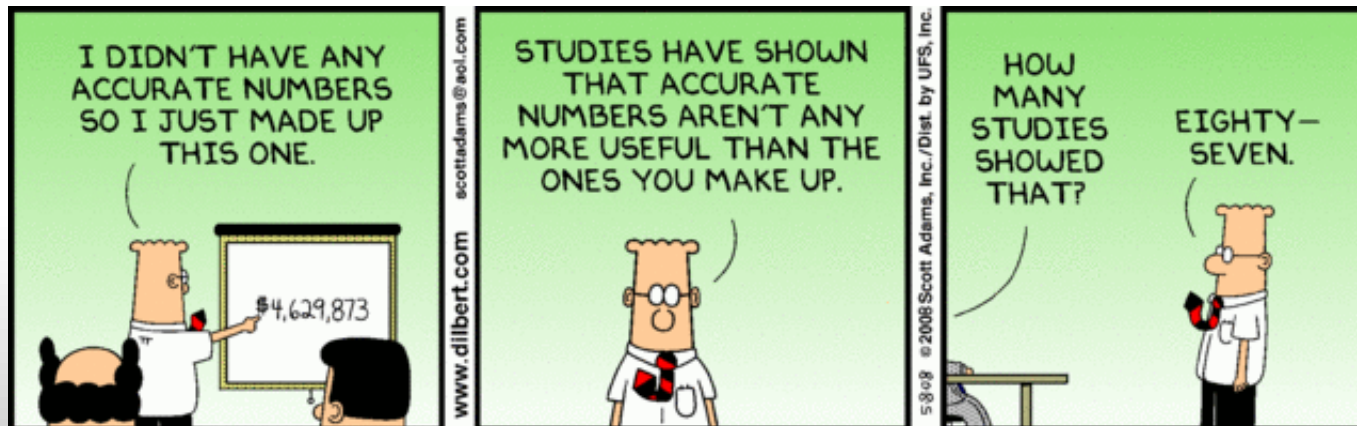
• General estimations

- Time for current process
- Expectation for improvements (time/resources)
- Number of Transactions

Return on Investments

Where to start?

- **Full process review** for both current and proposed processes
 - Roles in process
 - Average salaries for roles
 - Minutes per task
 - Frequency





Return on Investments

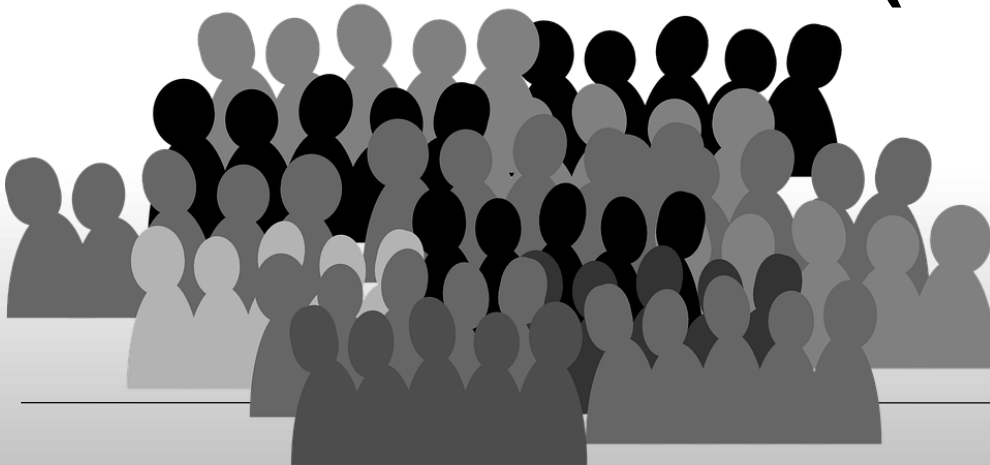
The Math

General - High Level Estimate	Example	Calculation
How many transactions annually?	10,000 transactions	
Estimated processing time?	30 minutes	
Calculate total transaction minutes	300,000 minutes	annual transactions x processing time
Estimated average salary of primary processing role?	\$50,000 annual	
Calculate salary per minute	\$0.43 min	(annual salary / annual hours) / 60
Calculate annual costs	\$127,714 annual costs	total transaction minutes x salary per minute
Estimated time savings per transaction?	10 minutes	
Calculate total savings minutes	100,000 minutes	estimated savings x annual transactions
Calculate estimated savings	\$42,571 savings	savings minutes x salary per minute

Return on Investments

Communicating the ROI

- **Know your audience**
 - **C-Suite**
 - **General university community**
 - **Others (trustees, etc.)**



Return on Investments

Visualize - Onboarding Soft Launch—Paper Savings

- **Show hard dollar savings and soft dollar resources to reallocate**

- 222 hire requests verified during soft launch
 - 222 X 36 pages = 7,992 sheets
 - 7,992 sheets = nearly 40 reams
 - 40 reams = 6' 6" paper stack





Visualize - Onboarding Paper Savings

HIRING – STUDENTS AND TEMPORARY STAFF

PAPER SAVED



**18,288
pages**

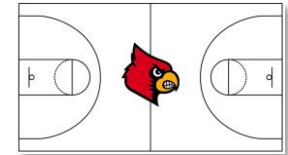
as of
08/30/16

First Year Savings

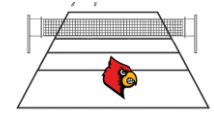
**100,000 pages
SAVED**



1 football field



+ 1 basketball court



+ 1 volleyball court

HOURS SAVED



**432
hours**

as of
08/30/16

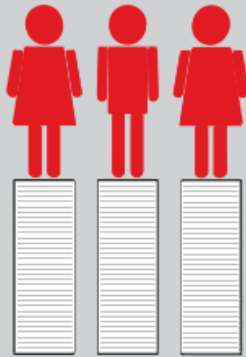
First Year Savings

**2,280 hours
SAVED**

Return on Investments

Website visual

1,229 NEW HIRES



**ONBOARDING
PROCESS**

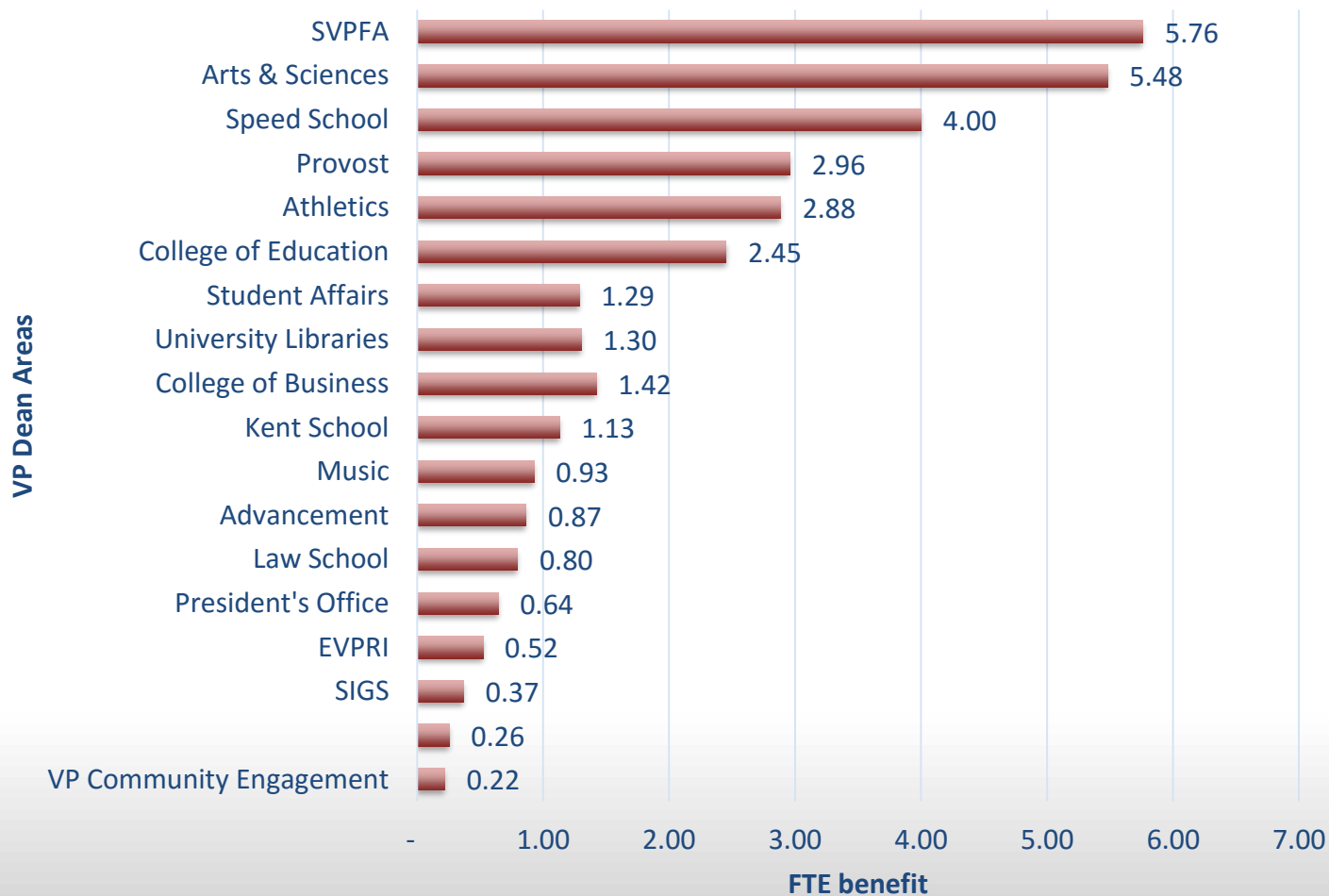
**44,244
Pieces of Paper
SAVED**



Return on Investments

Visualizations

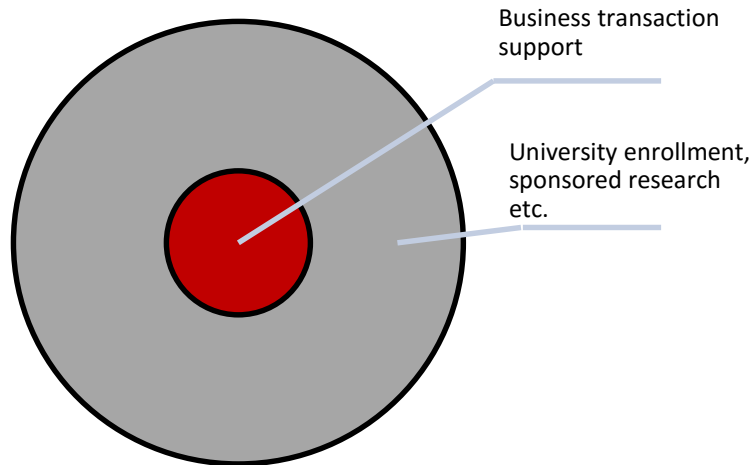
Phase I and II Time Benefits (estimated, by FTE)



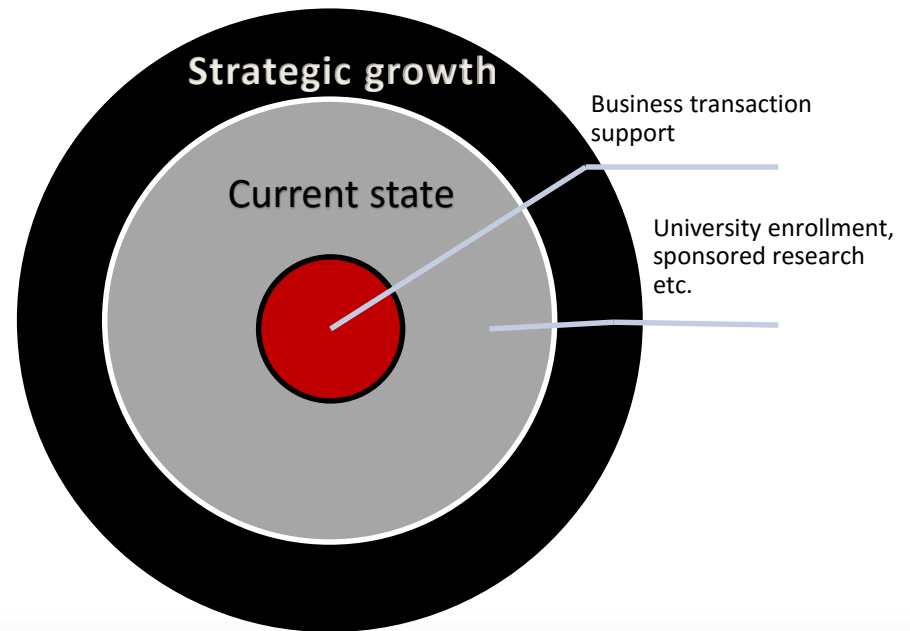
Return on Investments

Business transaction support scaled to university growth

Current State



Future State



Return on Investments

Discussion



Belknap Campus Shared Services

Share your thoughts...

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PHAROS



***Calculating ROI on a Sustainable
Managed Print Program***

Agenda

Print as a Shared Service?

Print Management in Higher
Education

George Mason Case Study

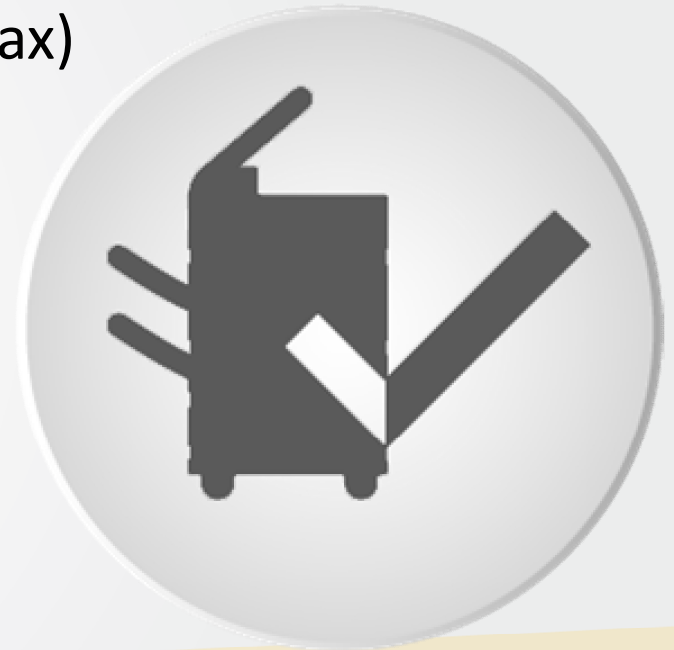
Elements of a Shared Service



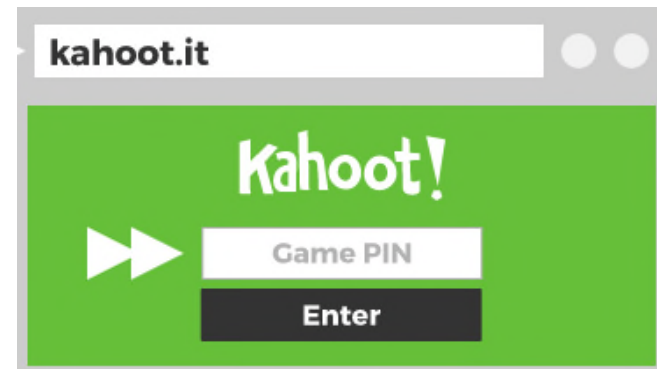
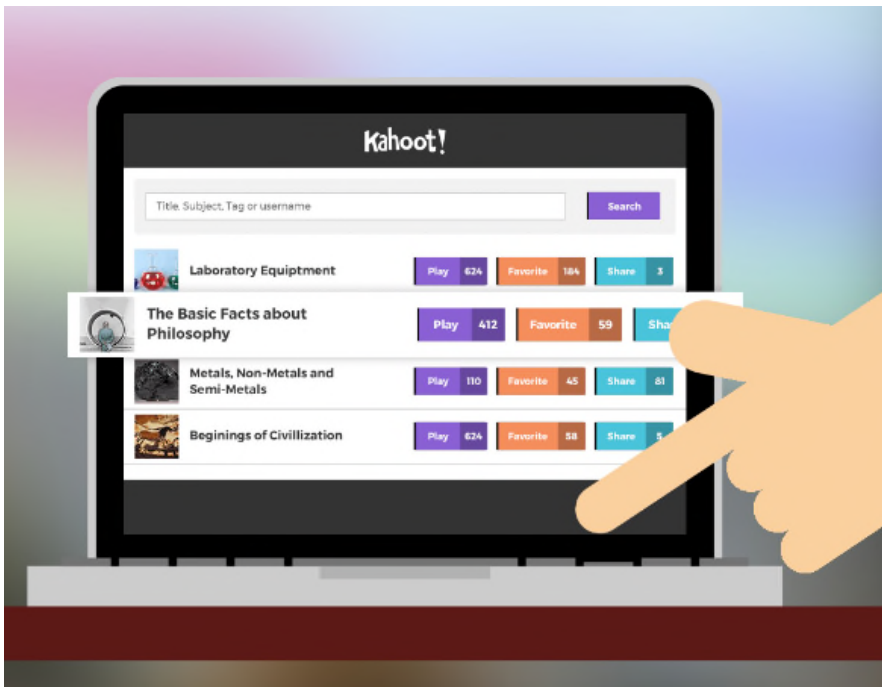
- Standardized practices/procedures across University
- Consolidation of resources, utilizing expertise
- Economies of scale
- Focus on core university business
- Reduction in cost

Managed Print Services

- Anyone focusing on this as part of Shared Services model?
 - Copiers/multifunctional devices (print/copy/scan/fax)
 - Single-function printers
 - Networked vs. non-networked
 - Student print vs Faculty/Administration
 - Print and copy centers



Allow us to **Kahoot!** for a moment ...





Print Management in Higher Education

Canon Research: Higher Education Print Programs



Canon Solutions America surveyed public and private institutions of various sizes as part of our ongoing national research engagement



We evaluated the following areas:



Program Management



Purchasing Models



Public Print Programs



End User Engagement



Program Strategy



Department Programs



Production Programs



Change Management



Vendor Relationships





Sustainability


Here's what we found...


Higher Education Research Results



Only **5%** 
have a print program
that actively engages
the campus community to
achieve program goals

78% 
have at least
two separate groups managing
campus print independently

Only **14%** 
have strong
ties between
their print
program and *university
sustainability efforts*

Only **21%** 
have a single student
chargeback solution with
*consistent technology and
pricing* across the university


Only **39%** 
of all programs
are driven through
simply a procurement
process and have *no long
term objectives*

Higher Education Research Results


HIGHER EDUCATION FINDINGS



Over **90%** excluded **single function prints** from their initiative



82% have no program or strategy articulated and are merely **managing processes and cost**



57% could not fully explain their pricing model or had **multiple models in play**

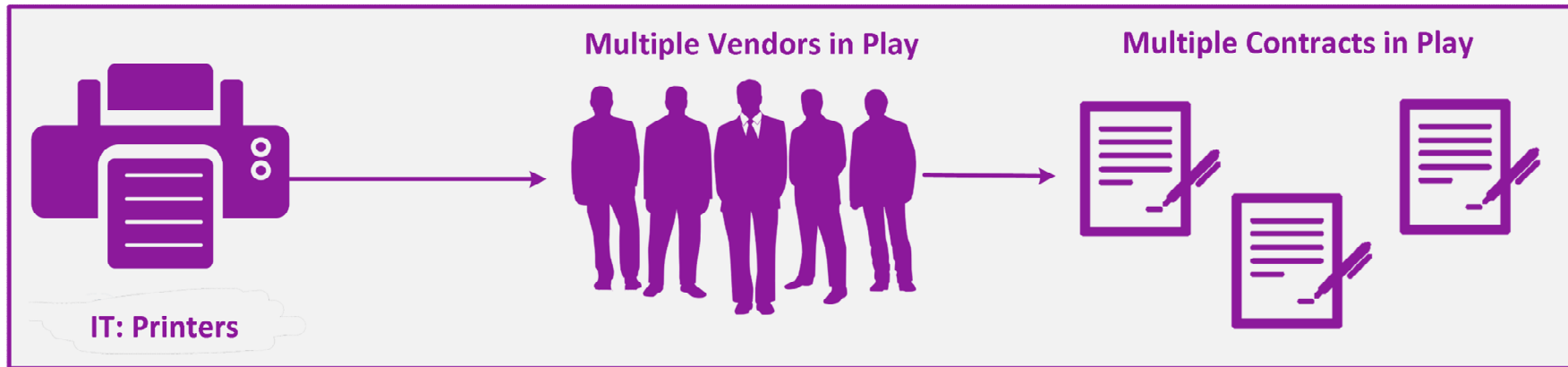


Over **87%** had multiple vendors providing equipment/services or a single vendor providing equipment only, with **no strategic objectives**



Traditional Model of University Print

Multiple Departments in Charge



Advantages of Print as a Shared Service

Print goals hit key points of Shared Services:

- Standardizing practices and management across university
- Leverage vendor to consolidate resources, contracts
 - Economies of scale
 - Devices off of your balance sheet
- Leverage vendor expertise: put focus on core university business
 - Vendor manages print, saving time and money

Benchmark Results



Measurement	Before MPS	After MPS
MFD Count	2,316	2,370
Single Function Count	3,034	1,250
Total Asset Count	5,350	3,620
B/W Volume (Annual)	129,679,896	112,538,040
Color Volume (Annual)	34,568,940	37,910,568
Total Volume (Annual)	164,248,836	150,448,608
Total Annual Cost (Annual)	\$ 9,380,280	\$ 8,375,424
Average B/W Volume per User	4,060	3,524
Average Color Volume per User	1,082	1,187
Average Cost Per User	\$ 294	\$ 262
Average Blended CPC	\$ 0.0571	\$ 0.0557
User to Device Ratio (X:01)	6	9



Case Study: George Mason University

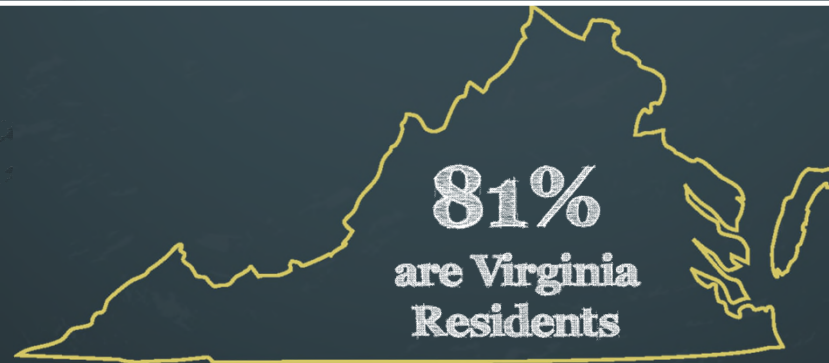
TOP 40 Most diverse campuses in the US



 **R1** Highest Carnegie Research Classification



success
35%
first generation

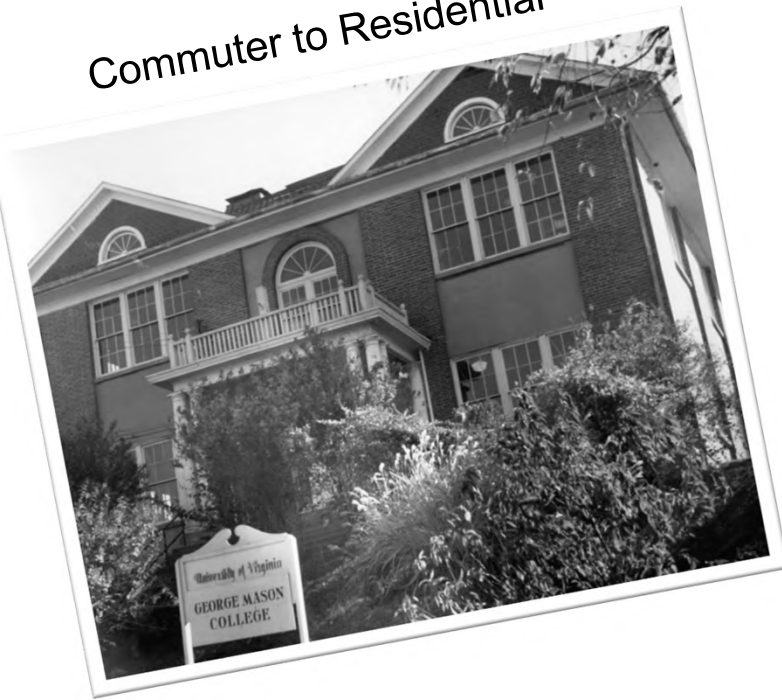


35,000
students

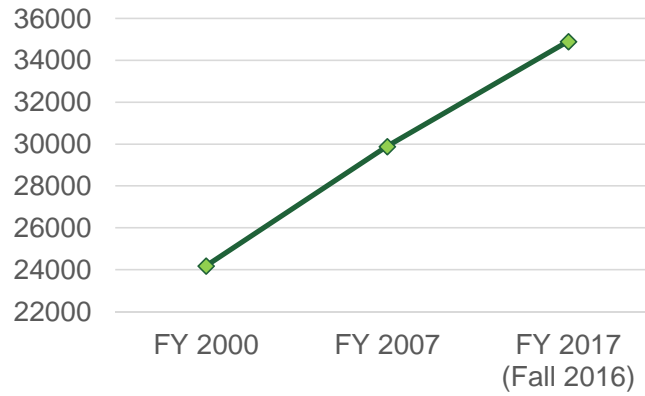


Mason Growth

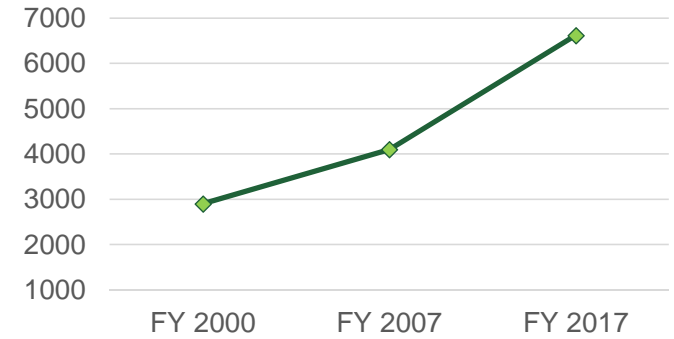
Commuter to Residential



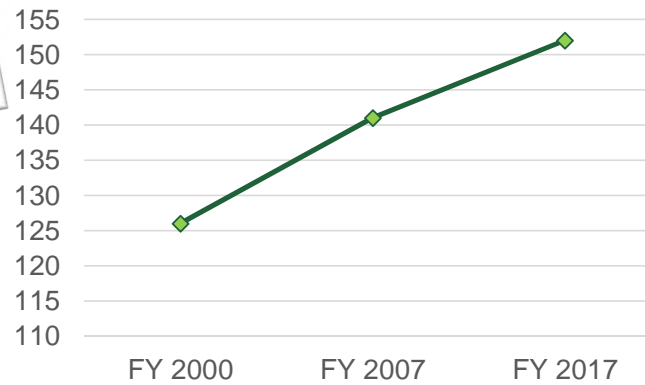
Enrollment



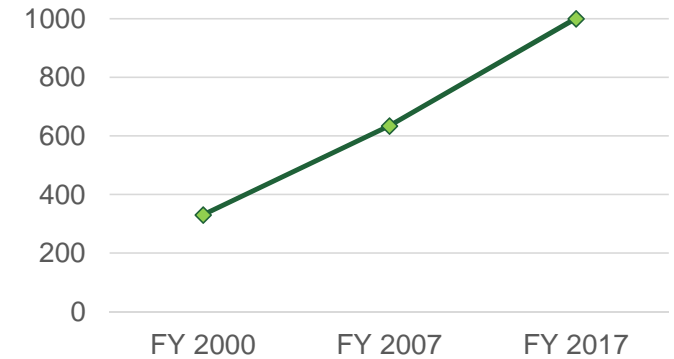
Number of Residential Beds



Total Buildings



Total Budget (\$ in millions)



Mason-specific details: Fleet

Challenges

- Decentralized fleet, multiple vendors and contracts
- Desktop print not managed
- No understanding of total volume, usage by dept
- Tech support haphazard

Goals

- One vendor for all print – vendor owns equipment (transfer risk)
- No central control, Toner stockpiles of all types, money already spent
- Data collection/ standardization, Centralized TCO baseline
- Outsource tech support to experts (free up IT)

First Step in ROI: Establishing Baseline



- Problems in data collection – 2014
- Data we could collect:
 - CPC increasing
 - Volume decreasing
 - Creative ways to find volume on non-managed devices
- Unknowns
 - Total prints and copies due to decentralization (had to back into numbers via paper purchased)
 - Number of desktop models and potential toners sitting out there
 - Needs of departments

Calculating the print volume



Paper Purchase Volume*:	28,384,616
<u>Multi-Functional Device # of Impressions*:</u>	<u>15,982,441</u>
Pay for Print Volume (student)	1,962,644
Total Annual Network Desktop Print*:	11,419,876
Estimated Annual Local Print Volume:	1,154,673
Total Estimated Volume	30,519,634

Toner Cost*: \$745,212

*Assumes 25% double sided

Financial/Productivity/Sustainability Goals



Reduce overall CPC and number of devices

- Reduce print impressions and electrical costs by 50%
- Increase scan volume by 2 million annually

Focus on Core mission of university

- Increase efficiency
- No Mandate
- Reduce environmental impact
 - Reduce CO2 emissions by 20%
- Specific measurable KPI's for vendor

Centralized program with consistent message

- Integrate Student print with faculty/admin printing
- Bring in Copy Center and Mail

Full MPS Program



Program Management

Assessments

Change Management

Training

Technology

Operations

MOA/Reporting

Fleet

Print Center



In order to deliver a successful and **sustainable program** for Mason, the solution combines **strong technology** and **software components**, a deliberate and robust **staffing plan**, and a customized **change management** program to engage Mason students, faculty, and staff. In addition, the solution will deliver a low-risk transition strategy that will meet our objectives.

Early Results



100%

**Implementation of
Print shops and
Mail**

100 %

**Implementation of
Student Print**

**\$317.96 -
38%**

**Average monthly
departmental
save projection**

\$.04

**All-inclusive CPC
(Cost Per Copy)
B&W**

33%

**Savings over
current CPC**

\$.0957

**All-inclusive CPC
(Cost Per Copy)
Color**

62%

**Savings over
current CPC**

Program Improvement/ROI

Measurement	Before MPS	Ideal State After MPS
MFD Count	228	175
Single Function Count	1,177	93
Total Asset Count	1,405	268
B/W Volume (Annual)	24,110,511	13,408,861
Color Volume (Annual)	6,409,123	3,245,944
Total Volume (Annual)	30,519,634	16,654,804
Total Annual Cost	\$ 2,400,000.00	\$ 866,546.40
Average B/W Volume per User	600	334
Average Color Volume per User	160	81
Average Cost Per User	\$ 59.75	\$ 21.57
Average Blended CPC	\$ 0.0786	\$ 0.0520
User to Device Ratio (X:01)	29	150

Cost Savings Opportunities



Savings Areas:

Reduced **operating costs**

Reduced **IT burden**

Maintenance and support
management

Reduced overhead in print
production centers

Improvement Areas:

Service Level Agreements

Actionable **reporting**

Ongoing **change management**
program

Benchmarking and **research**

Sustainability efforts regarding
print policy

Managed Print Services at Mason

*Reducing costs while increasing productivity and
decreasing environmental impact.*

Business Intelligence & Change Management

TCO 1026 - NEUROLOGY PRINT PERFORMANCE DASHBOARD			
Current State 2015		Suggested 2016 Improvements	Estimated Savings Opportunity
17 Multifunctional Devices	Yearly Volumes and Costs	Yearly Projections	Yearly Estimates
<p>Color vs. B/W</p> <p>B/W Print Volume: 686,584 Color Print Volume: 188,814 Total Print Volume: 875,398 Total Print Cost: \$25,943 *Note: Color volume represents less than 20% of the Total Print Cost.</p>	<p>If you REDUCE Color Volume by 15% 148,991 sheets = \$11,880 Projected Total Volume Cost: \$13,668</p>	\$2,088	<p>Reduce overall volume by additional use of:</p> <ul style="list-style-type: none"> Mailbox Secure Print Fax Drivers Fax Forward Electronic Signatures
<p>Duplex</p> <p>Duplex Print Volume: 184,320 Total Estimated Cost of Paper Saved: \$1,303</p>	<p>If you INCREASE Duplex from 22% to 35% Projected Cost of Paper Saved: \$4,659</p>	\$1,156	
<p>Single Function Devices</p> <p>Number of Printers on Record: 17 Assumed yearly print volume of 72,000 sheets Yearly assumed cost: \$4,185</p>	<p>By REMOVING 6 Printers at 36,000 sheets a year: B/W (77%) 17,280 1471 Color (23%) 4,720 309 Projected Yearly assumed cost: \$1,099</p>	\$5,095	

Data Management & Analysis
Reporting
Communications
Marketing for Change
Behavioral Analysis

We've Got You Covered!

Security **Training** **Service** **Support**

Your new Canon Devices are being installed and we've covered throughout the whole process. **Secure Print** your documents safe, while **reducing waste** from unwanted prints. Your Canon Support Staff is there when you need with **Service, Training, and Managed Output**.

For Service or Supplies call the Guardian Corporate Help Desk: 1-800-299-8654 option 5
 For Training: Visit Canon's E-Learning website at <http://elearning.usa.canon.com>
 Weekly Web Seminars - Every Thursday at 1pm. More information on the week seminars will be distributed after installation of the Canon equipment.
 To install Device Drivers go to: www.usa.canon.com/usa/Products/Printers/Drivers

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It's Time to Pull Your DESKTOP PRINTER

Your Desktop Printer is like a **BAD** it needs to be removed. Not only is costing your company money in ink and supplies, it is rotting out the environment you live in. Use your C-MFD instead and save time, money and environment.

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The first steps are the hardest

That's why joining the GreenPath Leader Program is so critically important to us.

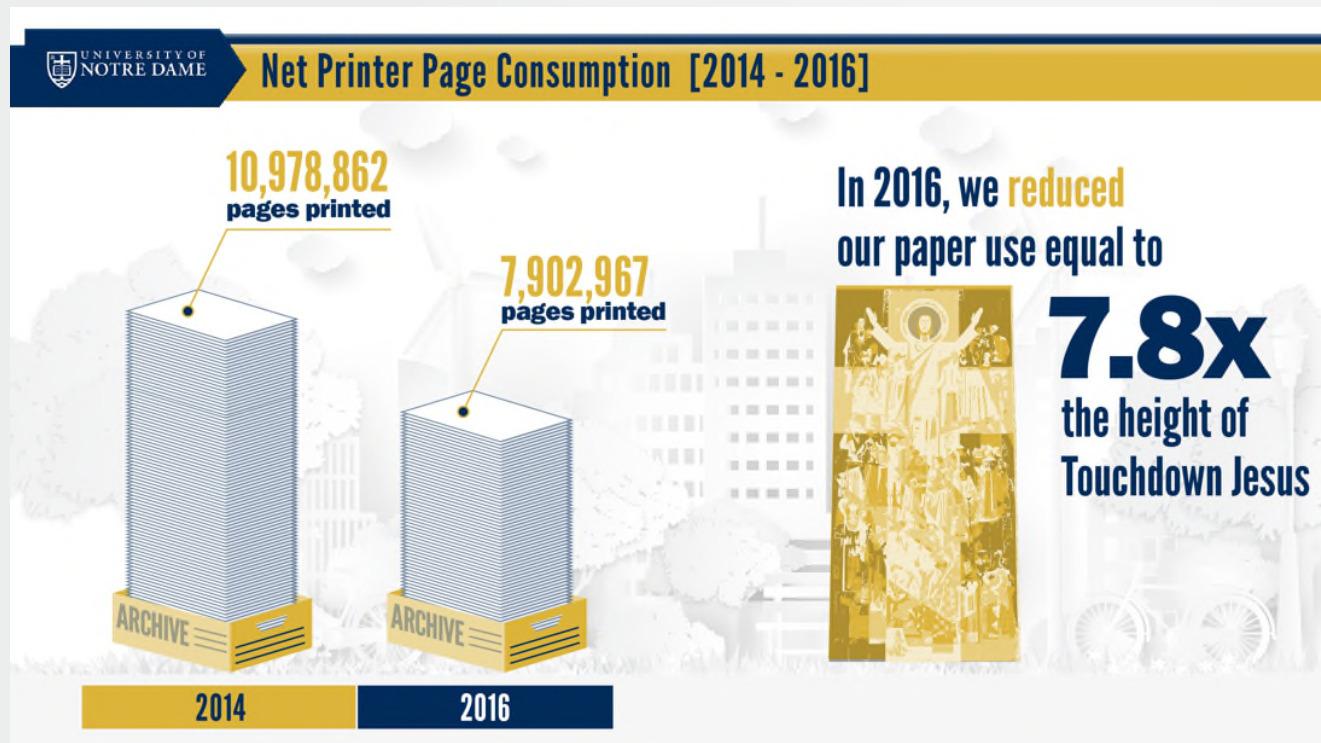
Your mentorship and example can help us inspire your fellow workers to turn in their personal printers before 10.01.2016.

GreenPath

As a first step, we will be providing you with a personal printer. We will be providing you with a personal printer. We will be providing you with a personal printer.

Canon
We'll help you find your way.

Tying Sustainability back to ROI



Lessons Learned and Next Steps

- Print as a Shared Service: where does print sit today? Who is leading strategic direction?
- Who can help you collect better data? Baseline is critical
- Calculating the ROI:
 - Consider the investment in your people and core mission
 - Putting the focus back on the student experience

Questions?



???

What Can We Achieve with MPS?

*Cost
Savings*

*Environmental
Savings*

Productivity

*User
Satisfaction*

*Sustainable
Program*





What does Pharos do?



Our Purpose

Helping business leaders reduce the needless consumption of resources related to print.



IT Directors,
CIOs, CSOs,
CFOs...



Convenience & Habit
vs. Business Process



Discovering
together; using
enterprise-grade
methodology



Page Volume,
Devices, IT Labor,
Paper, \$\$...

Helping **business leaders** reduce the **needless**
consumption of **resources** related to **print**.



Raising the
awareness
of costs and
world impact



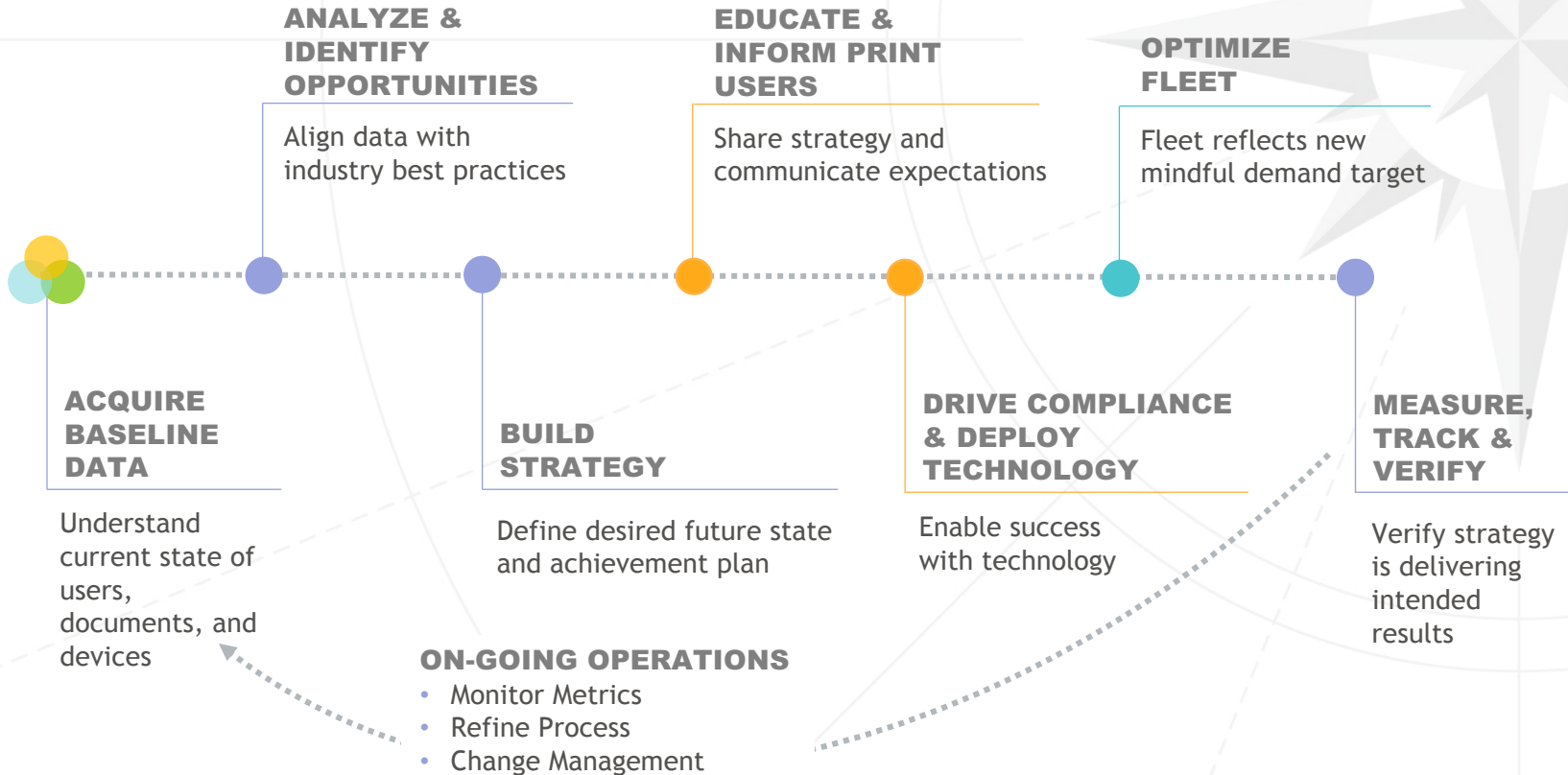
People, paper,
power, time &
information
security



Wherever it happens
(office, in-plant,
externally sourced)



7 STEPS: MASTER PRINT TCO & ROI





WHAT GETS IN THE WAY?

Top Four



Schools don't know
what they own.



Schools don't know
what they spend or
why they print.



Schools don't have a
strategy or plan.

What's needed:

A set of guiding principles and metrics for a Shared Services approach.





DASHBOARD VIEW

Pharos Beacon[®] Fleet Manager

Discover **Fleet** Print Analysis Account Profile

Dashboard Meter Toner Volume Status

Cost

Operating cost Year projected: \$538,509.02

\$363,514.21_{ytd}



Month to date



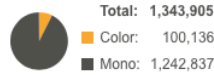
Volume

Printed pages Year projected: 30,755,616

20,896,782_{ytd}



Month to date



Utilization

Recent device utilization

10.00 %



Current and previous month



Composition

Fleet configuration by device count

1,722

Print users: 20,000

Manufacturers: 15

User to device ratio: 11.61

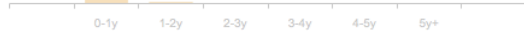
Unique models: 418



Life

[Fleet effective age](#)

1.31_{years}



Sustainability

Environmental impact based on paper use



Year projected





USER DASHBOARD w/TARGETS

Pharos Beacon® Print Analytics

Discover Fleet **Print** Analysis Account Profile

Dashboard

Configure Targets

Search



Data Quality: 30%



Print User Cost

Monthly print cost per print user

Last 30 days

Over Target: 8.18 %



Pages per print user: 78.75

Target: max \$2.20 set on: 07/28/2015



2015 Jun

Jun

Color Volume

Percent of monthly volume printed in color

Last 30 days

Within Target



Total volume: 630

Target: max 15.00 % set on: 07/28/2015



2015 Jun

Jun

Single-sided Volume

Percent of monthly volume printed single-sided

Last 30 days

Within Target



Total volume: 630

Target: max 25.00 % set on: 05/04/2015



2015 Jun

Jun

Print User Device Ratio

Number of print users per device

Last 30 days

Below Target: 50.00 %



Active print users: 8 | Total devices count: 2

Target: min 8 set on: 05/04/2015



2015 Jun

Jun

Local Devices Ratio

Number of print users per local device

Last 30 days

Within Target



Active print users: 8 | Local devices count: 0

Target: min 20 set on: 03/30/2015



2015 Jun

Jun

Outliers

Top print users, departments and applications by cost

Last 30 days

Print users

Applications

Departments





BENCHMARK ORGANIZATIONS DO 10 THINGS REALLY WELL

- 1** Know their fleet
- 2** Standardize and right-size
- 3** Know their print spend
- 4** Have an enterprise strategy/ plan with rules and tools
- 5** Govern and model desired behavior
- 6** Communicate effectively
- 7** Use tools to measure & report at the device and end user levels
- 8** Optimize utilization, costs, workflow, and end user sat
- 9** Achieve BOTH sourcing and process excellence
- 10** Lead the cultural shift to a mindset of less print