

# **Implementing Lean in Higher Education: *Learning from Successes, Facing Challenges, and Realizing Potential***

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In Higher Education

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# Thanks to My Colleagues

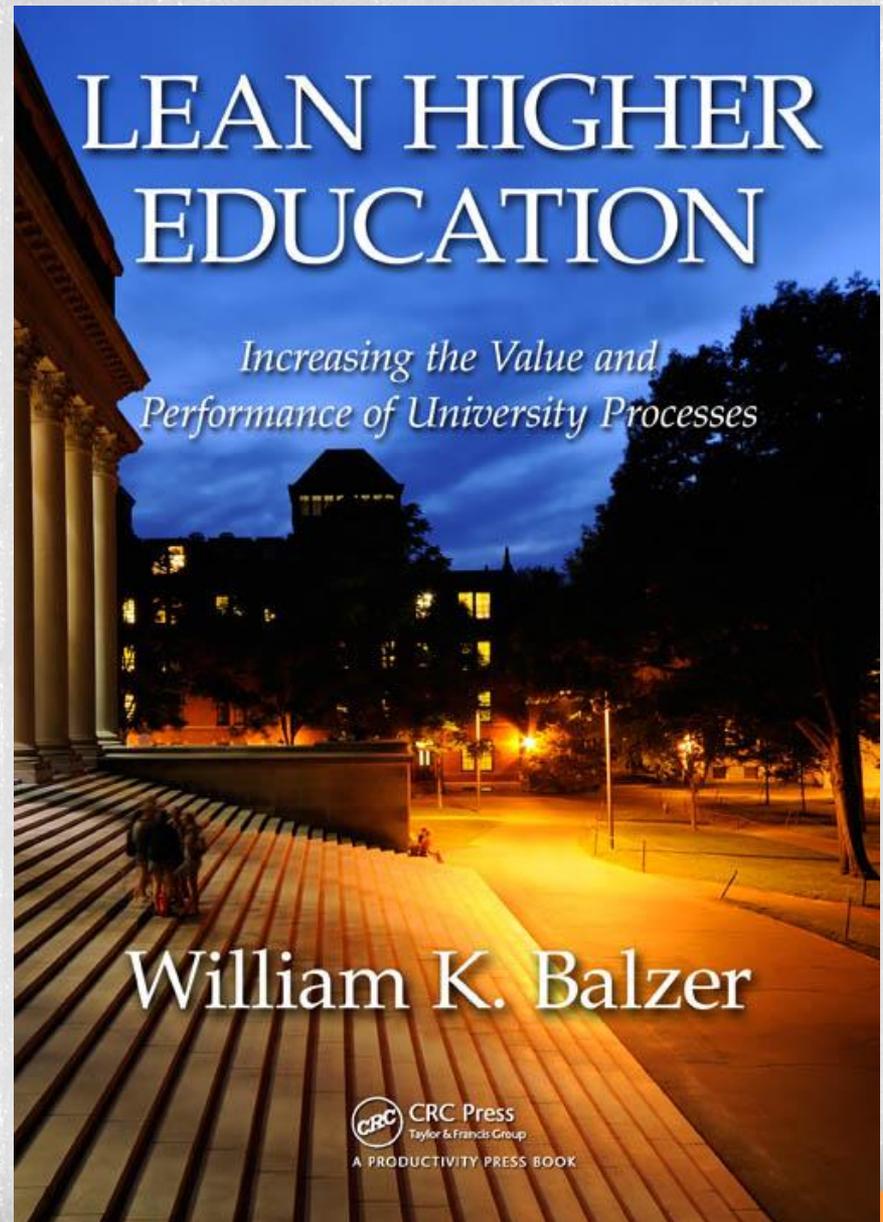
BGSU Senior Administration

BGSU Process  
Improvement Teams

BGSU LSS Facilitators and  
Project Sponsors

Pete Henning, LSS Master  
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OhioLean.org



# The Need for Change in Higher Education

- Decreasing support for public higher ed while expecting more students be served
- Labor intensive nature of higher ed
- Greater competition for students and the importance of student success
- Perception that higher ed is inefficient, expensive, and unaccountable
- Limited success in previous attempts at incremental or radical change to higher ed

# Lean Higher Education

- A self-sustaining organizational change philosophy with operational strategy
- Focus on improving university processes that serve our “beneficiaries”
- Empowers employees who know these processes to improve them
- Follows established principles and practices demonstrated to work
- Win-Win-Win for beneficiary, employee, and university

# Examples of University Processes (i.e., Services, Sets of Activities)

- Admitting students
- Orienting new students
- Hiring faculty
- Adding or dropping a course
- Reserving meeting spaces
- Establishing a new course or major
- Reimbursing professional travel
- Scheduling part-time instructors
- Thanking donors
- Advising students
- Routing grant proposals for approval

# Examples of Beneficiaries

(i.e., clients, customers, constituencies, etc.)

- Prospective students and families
- Current students and families
- Faculty and staff
- Employers of graduates
- Alumni
- Donors and friends of the college
- Advisory boards and accrediting agencies

# Lean Higher Education

- A self-sustaining organizational change philosophy with operational strategy
  - Can be implemented “locally” on campus or U-wide
- Focus on improving college processes that serve your “beneficiaries”
- Empowers employees who know these processes to improve them
- Follows established principles and practices demonstrated to work
- Win-Win-Win for beneficiary, employee, and campus/college or university



*“Lean [Higher Education] provides a way to do more and more with less and less – less human effort, less equipment, less time, and less space – while coming closer and closer to providing customers with exactly what they want.”*

(Womack & Jones, 2003, p. 15)

# Presentation Overview

- Five Conceptual Steps of LHE
- Implementing LHE Rapid Improvement Workshops
- Examples of LHE Success
  - BGSU & BGSU Firelands projects
  - LHE at other colleges and universities
- Facing the Challenges of LHE
- Realizing the Promise of LHE
- Questions & Comments

# Five Conceptual Steps of LHE

1. **Determine who are the beneficiaries (internal and external clients) and what they value** from campus services and operations
2. **Analyze the current process** (critical & repetitive services and operations) from perspectives of both campus & beneficiaries to identify steps that add or don't add value
3. **Propose a new process using Lean tools to (a) eliminate waste and (b) improve flow** of services & operations (“just in time, just for you”)
4. Have **employees implement the new process and evaluate performance** using key metrics
5. **Achieve perfection** through continuous improvement & radical transformation of the process

# Goal #1: Eliminate Waste

## Examples of Waste

- **Waiting**

- Waiting in line to pay a bill, sitting in waiting room, waiting for a meeting to start, waiting for a gift agreement

- **Non-Strategic Effort**

- Building course teaching schedule around faculty teaching preferences, duplicate “shadow” data bases

- **Missing Information**

- Retention initiatives w/o understanding the drivers of the decision to leave, outdated donor record

- **Unnecessary Transport**

- Scheduling meetings in location convenient for committee chair, temporarily relocating materials or people

# Solutions to Reduce Waste

- Have employees conduct “**Five Why**” technique after a process error is identified
- Implement **error-proofing** systems to reduce physical & mental burden of checking
- **Level workload** and workflow throughout the day to synchronize with available people resources
- **Eliminate unnecessary** materials and information available to employees
- Combine individual jobs in a process into a **self-contained “work cell”**

# Goal #2: Improve Process Flow

(smooth uninterrupted flow from perspective of beneficiary)

- **JIT (Just in Time) pull systems**
  - e.g., 2-slot wall rack for each health center provider
- **Demand leveling to reduce peaks & valleys**
  - e.g., shifting and protecting (e.g., no staff meetings permitted) advisor hours to meet peak demand times of students for scheduled & “drop in” appointments
- **FIFO (First in, first out) lanes**
  - e.g., donations entered and recognized in the order in which they are received
- **Mistake proofing**
  - e.g., standardized work steps during advising appointment based on best practices

# Implementing LHE: Key Steps

1. Confirm supportive climate for LHE
2. Create advocacy/oversight for LHE
3. Identify a process to target for improvement
4. Establish & train LHE project team
5. Identify what beneficiary values & expects of the target process
6. Develop performance metrics to assess current performance (& document subsequent improvement)
7. Identify all steps in the process: both beneficiary and provider

# Implementing LHE: Key Steps (cont'd)

8. LHE specialist team(s) as needed to focus on specific areas of waste and poor flow
9. Both teams use LHE methods and tools to eliminate waste and improve flow in the proposed “future” process
10. Endorsement of recommendations by senior campus leadership
11. LHE implementation team rolls out changes with involvement of even more employees
12. Continuous monitoring and improvement by employees who “own” the process

# BGSU Hiring Process

(i.e., Hourly Professional Staff)

## Identified as a “Broken Process”

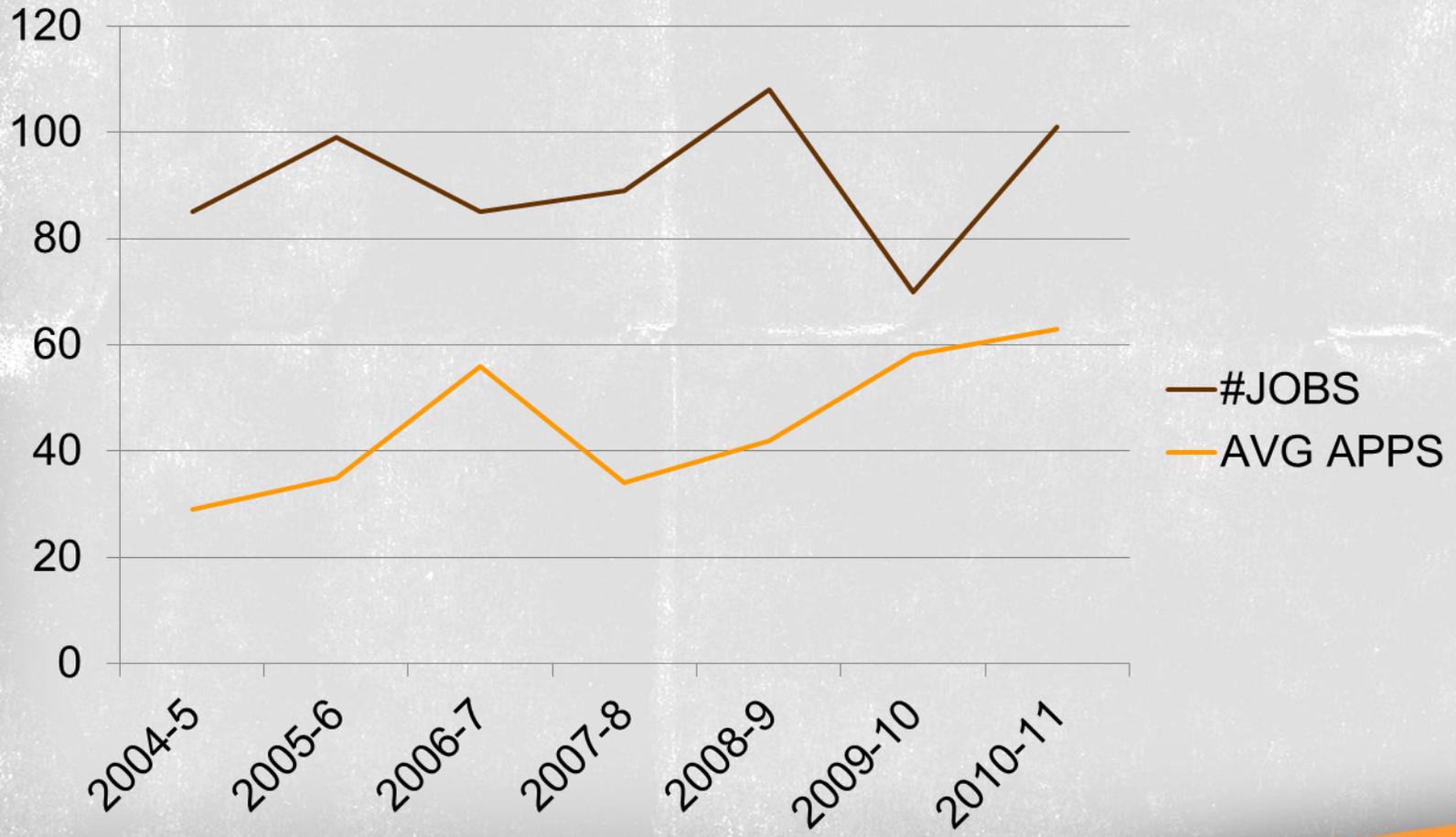
- Concerns over the time required to hire administrative staff
- Belief that the administrative staff hiring process was too complicated

## Goals of LHE Workshop (Kaizen)

- Reduce total time of hiring process
- Streamline hiring process (fewer steps)
- Reduce required hiring paperwork
- Improve internal customer satisfaction with hiring process
- Improve applicant satisfaction with hiring process

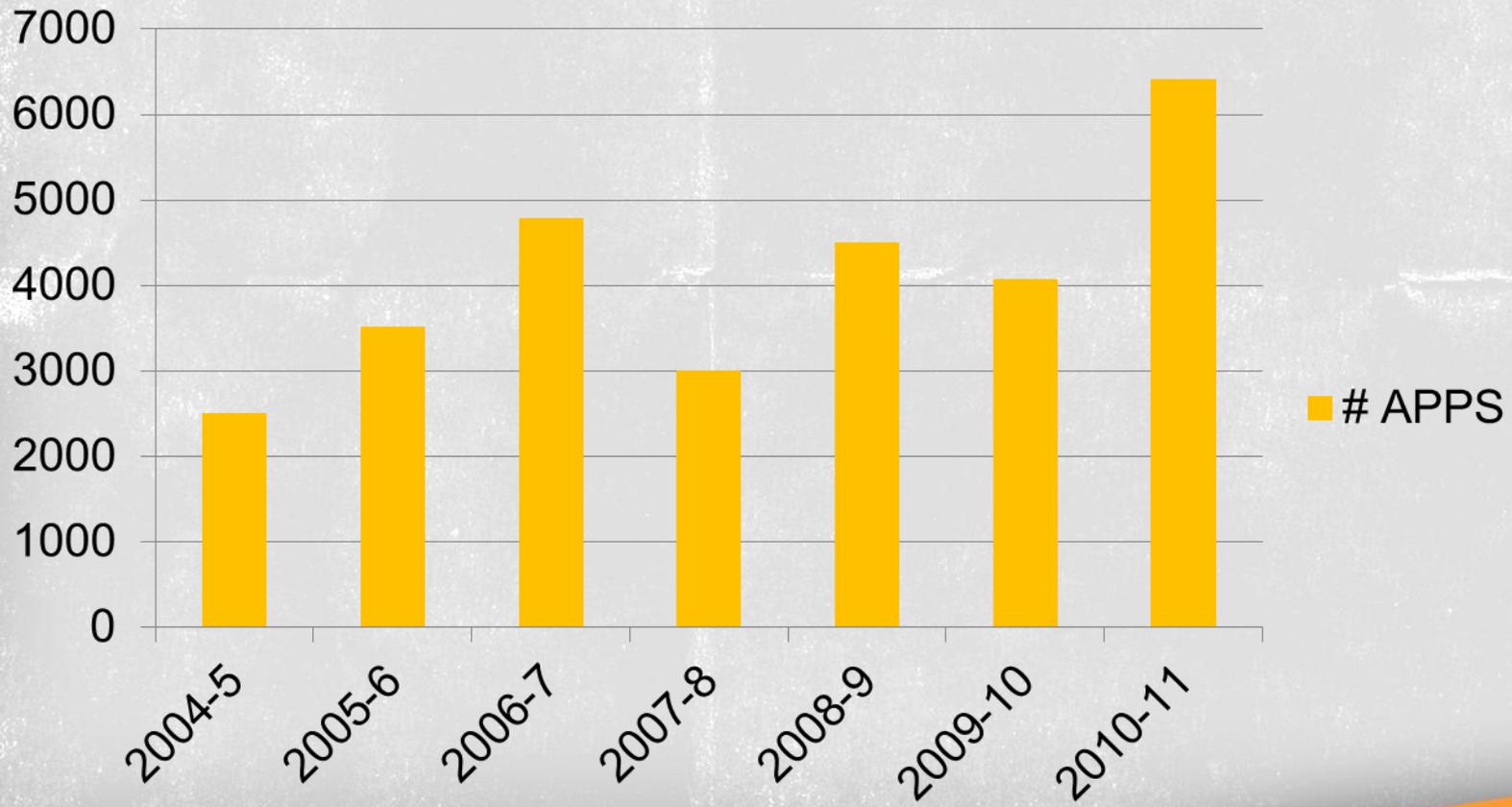


# Administrative Staff Hiring Process Hiring Trends



# Administrative Staff Hiring Process Job Applicant Trend

# APPS



# Administrative Staff Hiring Process

## Key Current Hiring Timeline Statistics

<b>Key Performance Metrics</b>	<b>Average Time (Days)</b>	<b>Median Time (Days)</b>	<b>Maximum Time (Days)</b>
<b>Workdays:</b>			
Time to complete the Job Analysis Questionnaire*	≈ 30-40	—	—
Time from candidate application deadline → Receipt of “Request to Interview” candidates form returned to HR	14	11	71
Time from “Request to Interview” candidates form is approved → Request to hire is received in HR	21	17	55
First signature on position authorization → HR/OED authorization to extend offer (ENTIRE PROCESS)	57	53	128
* Estimate from Focus Group participants; all other data collected from Office of Human Resources data base			



# The Current Hiring Process

- Too many steps (87)
- Only 23 steps added value (i.e., 64 are waste)
- Too many handoffs and signatures
- Over-reliance on one person
- Duplication
- Lots of wait time
- **AHA MOMENT:** Greatest waste was due to delay in progress by the hiring department, not by HR or OED
  - e.g., on-campus interview step in process averaged 21 work days ( $\pm 14$  more work days – and up to 55 days)

# 100+ Lean Solutions Identified and Prioritized

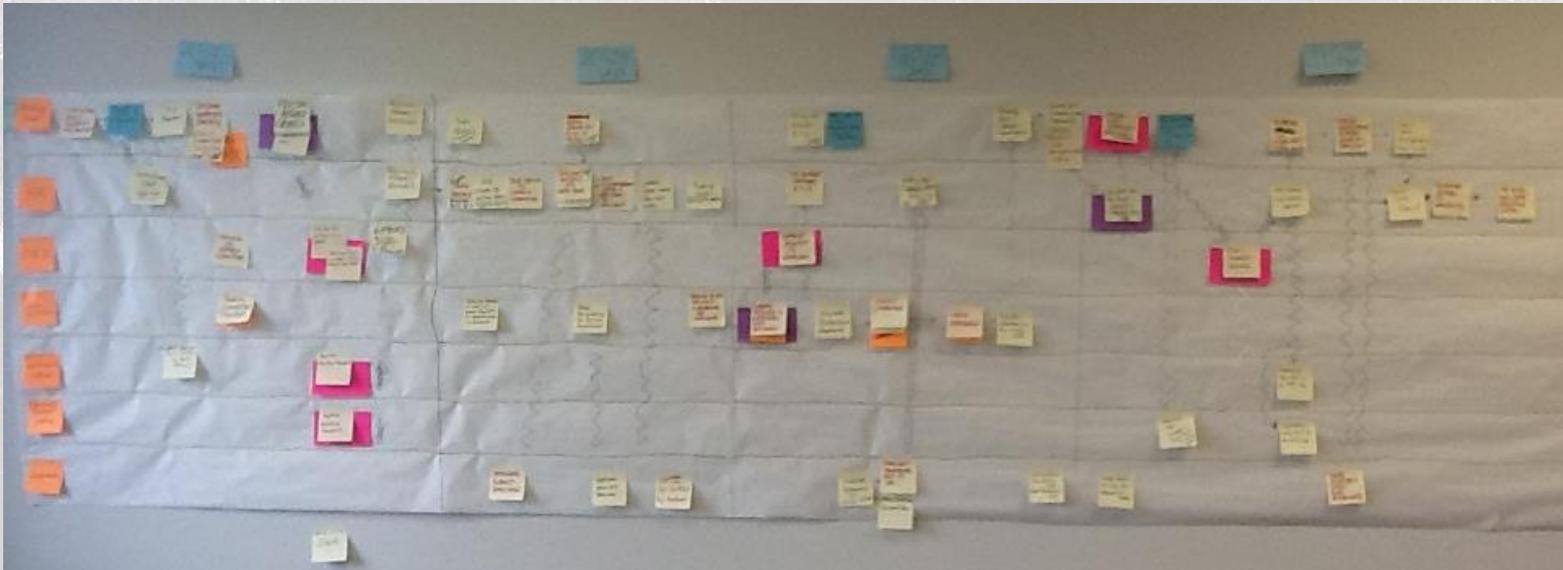
- **Target Areas:**
  - **Completing JAQ**
  - **Search Committee Activities**
  - **Communication with Applicants**
  - **IT**
  - **OED**
  - **Hiring Forms**
  - **etc.**

*Establish scheduling tool to allow search committee to pre-schedule meetings, interviews etc. to eliminate delays*

*Eliminate unnecessary second approval signature by supervisor to streamline process speed and #*

*Create "self-service" library of JAQs for hiring department to expedite JAQ completion*

# IMMEDIATE Future State Process Map: Administrative Staff Hiring (i.e., NO new resources required)



87 steps → 40 steps  
≈ 22 weeks → ≈ 8 weeks  
3 forms → 2 forms

# More Results

- “Best Practice Tool Kits” for hiring departments and search committees
- Expanded applicant communication and update on search process
- Internal client participation on new forms, checklists, flow charts, etc.



# The Results: Scorecard Performance

Measure	Before	Projected After	Difference
<b>Lead Time</b> (beginning to end)	≈ 22 weeks	≈ 8 weeks	14 weeks (74% fewer)
<b>Number of Steps</b>	87 steps	40 steps	47 steps (54% fewer)
<b>% Value Added Steps in the Hiring Process</b>	26%	57%	31%
<b>Number of Forms</b>	3	2	1 (33% fewer)
<b>Processing Time</b>			
•JAQ processing	20 - 40 days	2 – 11 days	20+ days
•Applicant review and hiring recommendation	4+ weeks	2 – 3 weeks	10+ days
<b>Cost of Poor Quality</b>	<b>Savings:</b>	<b>\$3-5M ANNUALLY</b>	

# BGSU Counseling Center

## Process: Student Counseling Services

- Challenge: 12 – 21+ days from initial student contact to assigning a counselor

## Pre-LHE

- Limit length of short-term counseling
- Add group counseling & stress clinic
- Strengthen community liaisons for student referrals

# Project Steps



- LHE Team established
- Student clients specify value
- Performance metrics collected
  - e.g., time from contact to assignment
- “Walk” through the process from client & provider perspectives (“learning to see”)

# Project Steps (cont'd)



- Critically examine all process steps for value (vs. non-value waste) and contribution to flow
  - Waste of waiting for appointment
  - Waste of “no show” appointment times
  - Waste of gleaning information from forms
  - Waste of weekly “all inclusive” group meetings
  - Emergency services interrupting flow
- Lack of flow moving student files within counseling center

Total Time: 12 - 21+ days

Value Added Time: < 2 hours

(or **99% waste!**)



# BGSU Counseling Center Project Outcomes

	<b>Before</b>	<b>After</b>	<b>% Improvement</b>
Student waiting time until initial appointment (days)	5 days	< .1 (same day)	<b>99.8%</b>
Student waiting time from initial appointment to assignment to counselor (days)	16 days	< .1 (same day)	<b>99.9%</b>
Number of emergency counseling service interviews	356	213	<b>40.2%</b>
% "No Shows" for consultation & assessment interviews	20%	< 1%	<b>95.0%</b>
Number of students requesting counseling services	761	950	<b>24.8% increase</b>
Number of counseling staff	12 FT 1 PT	12 FT 1 PT	<b>NO INCREASE</b>

# Other BGSU LHE Projects

Process	Lean Tool(s)	Outcome
Student Admission	One piece flow	Faster admissions (apply → admits)
New student orientation	JIT; Demand leveling	↑ matriculation (admits → enroll)
Faculty non-credit contracts	Measles charts	44 hours of staff time saved
Student primary health services	Spaghetti diagram; Standardized work	1400 hours of waiting eliminated
Student advising	Structured problem solving; co-located services	FTFT F2F Student retention ↑ 6%
International wire transfer	Process mapping	21 days → 3 days

# Many Universities, Many Lean Processes

U Central Oklahoma

U New Orleans

U Iowa

U Scranton

Rensselaer Polytechnic

UC Berkeley

U Washington

U Minnesota

U Wisconsin

U Virginia

U Texas – Dallas

Carleton University

Facilities work order process

Grad student payroll process

Hiring process

Enrollment inquiry process

Curriculum design process

Printing services

Research financing process

Student readmission process

Info technology process

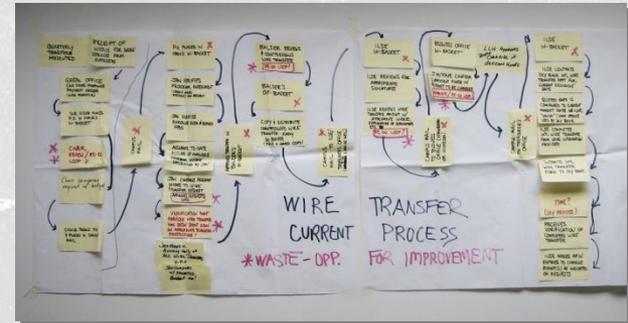
Events/Calendar process

Banking reconciliation process

Student exchange application process

# Outcomes from LHE Projects

- **Expectations of beneficiary met/exceeded**
  - Faster service, less waiting, fewer errors
- **Engaged & empowered employees**
- **University savings**
  - Wasted employee time → shifts to other value added activities
  - Faster advising + faster counseling services = better student retention
  - Faster hiring process = hiring best applicants



**LHE works**

# Facing the Challenges of LHE

- **Avoiding Lean “Lookalikes”**
  - Ensuring you are buying and implementing Lean and not “Lean Like”
  - Look to certifications, advisory boards, past clients
- **Overcoming the effects of “Bad Lean”**
  - Poor implementation or “Lean Lite” (to cut costs) can hurt acceptance of Lean by leaders and employees
  - “Five Why” approach to understanding failure
- **LHE: eliminating waste, not people**
  - Firing staff undermines LHE philosophy & employee trust
  - Communication & commitment to staff and long term view

# Facing the Challenges of LHE

- The Universal Language of Dollars
  - Demonstrating the bottom line impact to justify the costs of implementation
  - Guidelines for “Cost of Poor Quality” (Harrington, 1987)
- Getting Started: Leadership & Climate
  - Authentic, visible, sustained commitment
  - Assess/Prepare climate “Readiness for LHE”
- Creating a self-sustaining LHE program
  - Consultants carry the knowledge away
  - Post-training commitments and succession planning
  - Evolutionary process of changing the DNA to embrace LHE

# Realizing the Promise of LHE

- Holy Grail: LHE and the Academic Mission
  - Moving beyond academic support processes
  - Education w/o waste that flows (Nkumbwa, 2010; Emiliani)
- Scalability of LHE
  - Can be implemented locally or U-wide
  - Collaborative LHE with external suppliers (k-12) and customers (employers)
- Proactive Leadership in Transforming HE
  - Culture of service and accountability, continuous improvement and cost containment, employee ownership & engagement
  - Learning organization with new roles for leaders

# Realizing the Promise of LHE

- Delivering Excellence to Those We Serve
  - Kano Analysis: Identifying & delivering “delighters” to students, parents, faculty, staff, employers, etc.
  - DMAIC cycle of continuous improvement
- Leveraging the Expertise of All Employees
  - Provide LHE tools and get out of the way
  - Better processes, jobs, and engagement

**OVERALL: Win-Win-Win for beneficiary,  
employee, and college/university**

# Begin **YOUR** LHE journey today! **Questions & Comments?**

