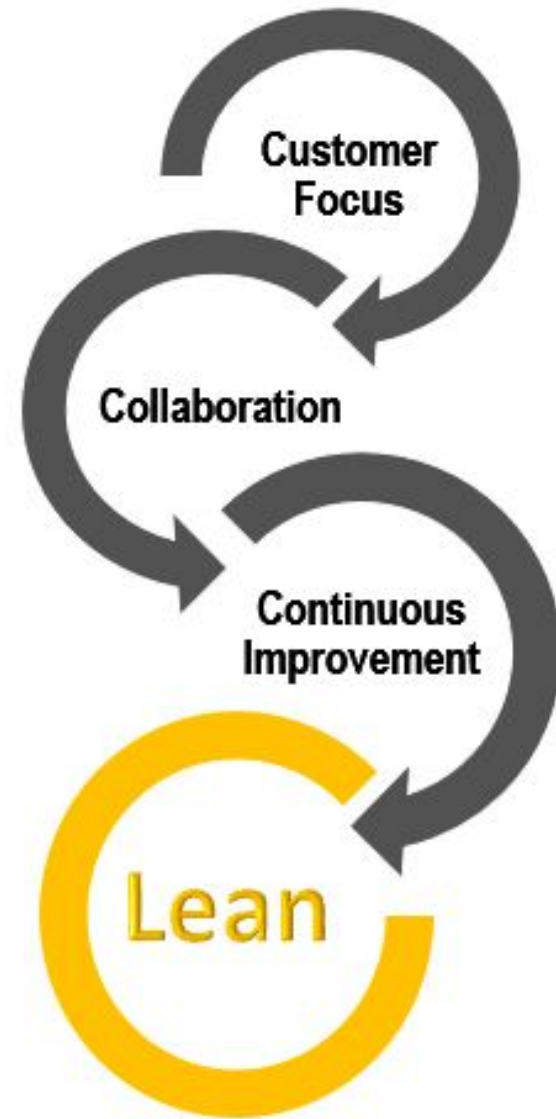


Tune Up Your Process Mapping Skills, Working in a Piano Factory



August 2015

Pattie Luokkanen
Michigan Technological University





Welcome!

Fire exits

- In case of fire, please walk to the nearest exit.

Unsafe act or condition

- If you see an unsafe act or condition, please notify the instructor

About Pattie Luokkanen

- Lean Facilitator at Michigan Tech
- Manager, RADS- Van Pelt & Opie Library/
Michigan Tech University
- MLIS/UW-Milwaukee, BS/MTU
- Home in Keweenaw County-top of Michigan
- 2 dogs, 2 cats , 2 kids

About Theresa Coleman-Kaiser

- Associate Vice President for Administration
- Works with Auxiliary Services, Human Resources & Campus Police
- Lean Facilitator and Implementation Leader
- Michigan Lean Consortium Board of Directors
- Volunteer Green Belt Coach & Improvement Facilitator for State of Michigan

Michigan Technological University

We prepare students to create the future.

Our Vision

Michigan Tech will lead as a global technological University that inspires students, advances knowledge, and innovates to create a sustainable, just, and prosperous world.

- Leading public research university, established in 1885
- Enrollment > 7,000 students
- Located in the Upper Peninsula of Michigan
- More than 120 degree programs in arts, humanities, and social sciences; business and economics; computing; engineering; forestry and environmental science; natural and physical sciences; and technology.
- Education emphasizes research, cross-disciplinary study, and team learning.



Michigan Tech
Create the Future

Road Map



- Improvement Exercise
- Process Thinking
- Identify Waste
- Process Mapping

Piano Humor



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Michigan Tech
— Create the Future

Improvement Exercise

(adapted from ASQ Case Study Collection by Sunil Kaushik)

Standardized Work

- Process Stability
- Clear stop & start points
- Organizational learning
- Kaizen
- Training

Quality Controls

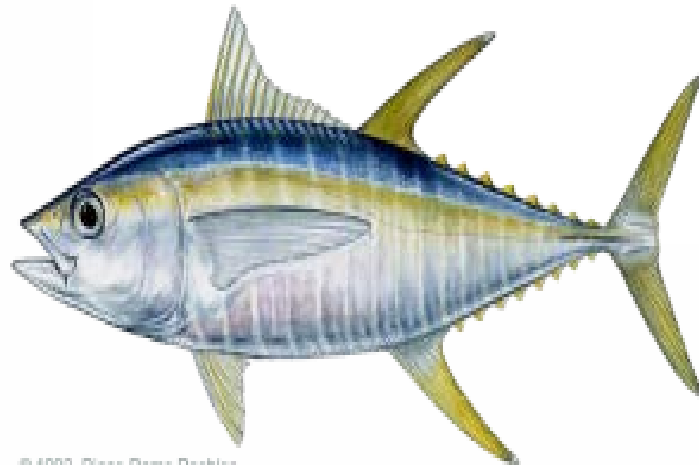
- no extra folds
- keyboard under pocket
- keyboard lines do not extend past the fold
- no stray marks
- 14 white keys, 10 black keys-correct relationship
- team name & star on back

Waste

- Inventory
- Correction
- Overproduction
- Waiting
- Over Processing
- Motion
- Movement
- Knowledge

What's the difference between a piano and a fish?

-You can't tuna fish



© 1992, Diane Rome Peebles

Continuous Flow

- Product moves continuously -> customer
- Balance
- Waste reduction
- No batching or queues

Continuous Flow Changes Everything

- How we work together
- The kinds of tools we devise to help with our work
- The organizations we create to facilitate the flow
- The kinds of careers we pursue
- The nature of business firms and their linkage to each other
- The society

The World of Batch-and-Queue

- **What happens when you go to your doctor?**
 - Make appointment days ahead
 - Arrive on time and wait in waiting room
 - Doctor behind schedule
 - Referral to a specialist
 - Laboratory tests
 - Wait for results
 - Treatment or medication given
 - Trip to pharmacy or to specialist
 - Hospitalization – whole new disconnected processes and waiting
- **What happens when you take a flight?**
- **What happens when you build a custom home?**
 - As the customer, you pay for all the waiting and rework
- **The creation, ordering, and provision of any good or any service can be made to flow.**

How to Obtain Flow?

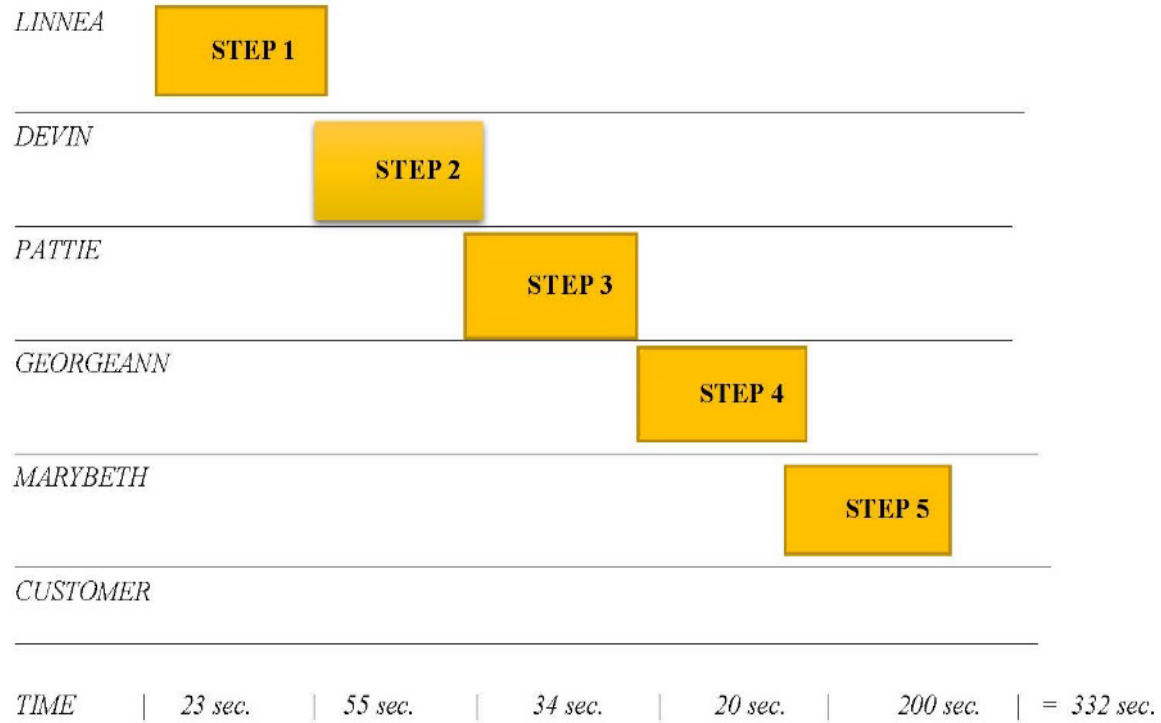
- **Think about ways to:**
 - Line up all of the essential steps needed to get a job done
 - Obtain a steady, continuous flow
 - No wasted motions
 - No interruptions
 - No batches
 - No queues

Improvement Exercise

Process Mapping-Swim Lanes

- Draw equally spaced horizontal-stakeholders
- Use post-it notes to identify each step
- Verify accuracy with all stakeholders
- Add process time and lead time at bottom of map

Swim Lanes Example



WHAT DO YOU CALL A SNOWMAN THAT PLAYS
THE PIANO?

Reflection



In your teams, share

- Key take-aways or Aha! moments
- How you might use what you've learned today

We'll report out to the group

Today's Objectives -recap



- Improvement Exercise
- Process Thinking
- Identify Waste
- Process Mapping

Questions?

