

# Virði og sóun í Scrum og Kanban verkefnum

Dr. Marta Kristín Lárusdóttir



Lektor við Tölvunarfræðideild Háskólans í Reykjavík  
Fyrirlestur á UT messu, 6. febrúar, 2015



# The background for this talk

- Master project
  - Insight into Waste in Agile Software Development
  - Wanted to study, if the theory on waste is true in IT industry
- Survey on Scrum and Kanban
  - CS graduates from RU (2009 – 2014)
  - 40% Scrum and 10% other agile processes
  - 22% Kanban and 4% Lean
  - 24% Other(including own process and Waterfall)



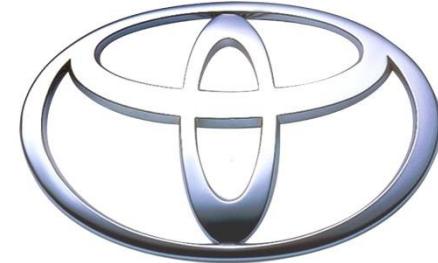
Michael Simader



Daniel Multykh

# Lean Management Principles

- 1. Eliminate Waste**
2. Build Quality in
3. Create Knowledge
4. Defer Commitment
5. Deliver Fast
6. Respect People
7. Optimize the Whole



**TOYOTA**

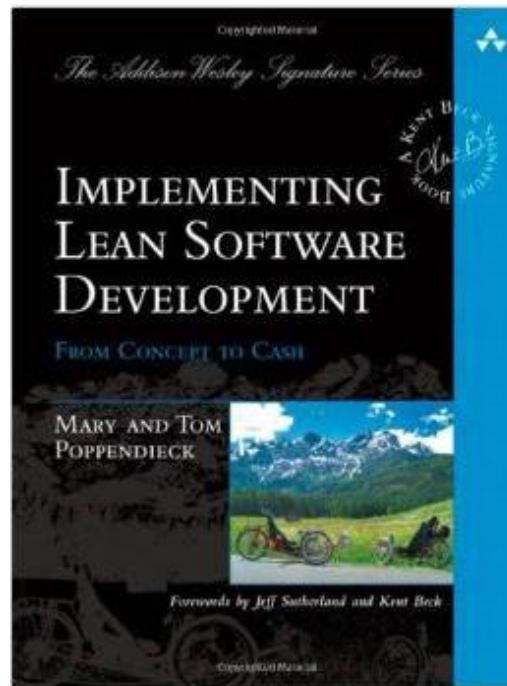


# Waste in Manufacturing

1. In-Process Inventory
2. Over-Production
3. Extra Processing
4. Transportation
5. Motion
6. Waiting
7. Defects



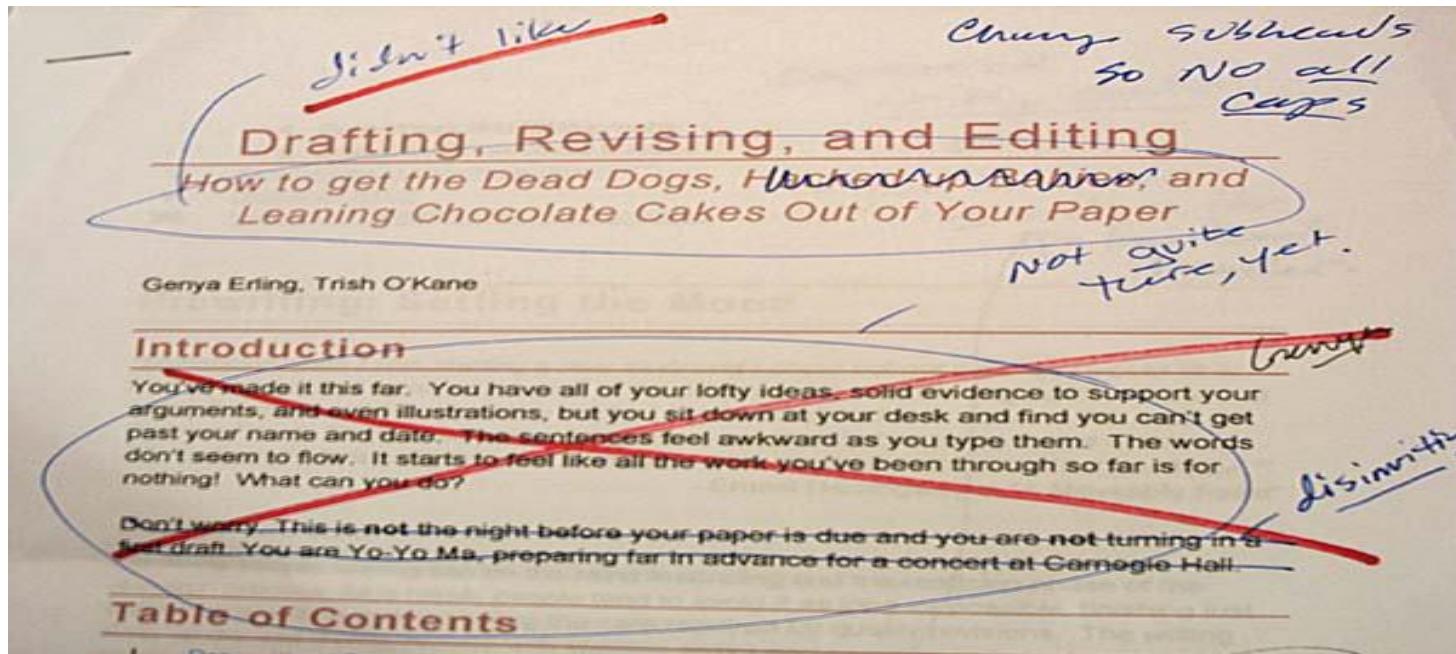
# Mary and Tom Poppendieck



# The Seven Types of Waste

<b>Manufacturing</b>	<b>Software Development</b>
In-Process Inventory	Partially Done Work
Over-Production	Extra Features
Extra Processing	Relearning
Transportation	Handoffs
Motion	Task Switching
Waiting	Delays
Defects	Defects

# 1. Partially Done Work (Ókláruð vinna)



## 2. Extra Features (Auka fítusar)

### User Main Menu

Welcome. This is the main menu to access any area of your control panel. To access areas of your account click on the relevant buttons below. Quick help can be found at the bottom of this page.



### Package Details

This is the main menu for your package. You can access the domains that have been setup within this package, view what resources have been used by this package or add more features using the buttons below.

The Package Details interface shows the following elements:

- My Package
- Friendly Name: My Package
- Back, Delete, Save buttons
- Resource Usage icon
- Extra Features icon (highlighted with a red box)
- Domains icon
- Statistics icon

The screenshot shows the Microsoft PowerPoint ribbon with the 'Format' tab selected. Below the ribbon, the 'Transitions' tab is active. A preview window shows a slide with a transition effect applied. The 'Transition to This Slide' dropdown menu is open, displaying various transition options: None, Cut, Fade, Push, Wipe, Split, Reveal, Random Bars, Shape, Uncover, Cover, and Effect Options. On the right side of the slide, there are timing and sound settings: Sound: [No Sound], Duration: 02,00, On Mouse Click checked, Apply To All, and After: 00:00,00. The bottom navigation bar includes tabs for Slides, Outline, and View.

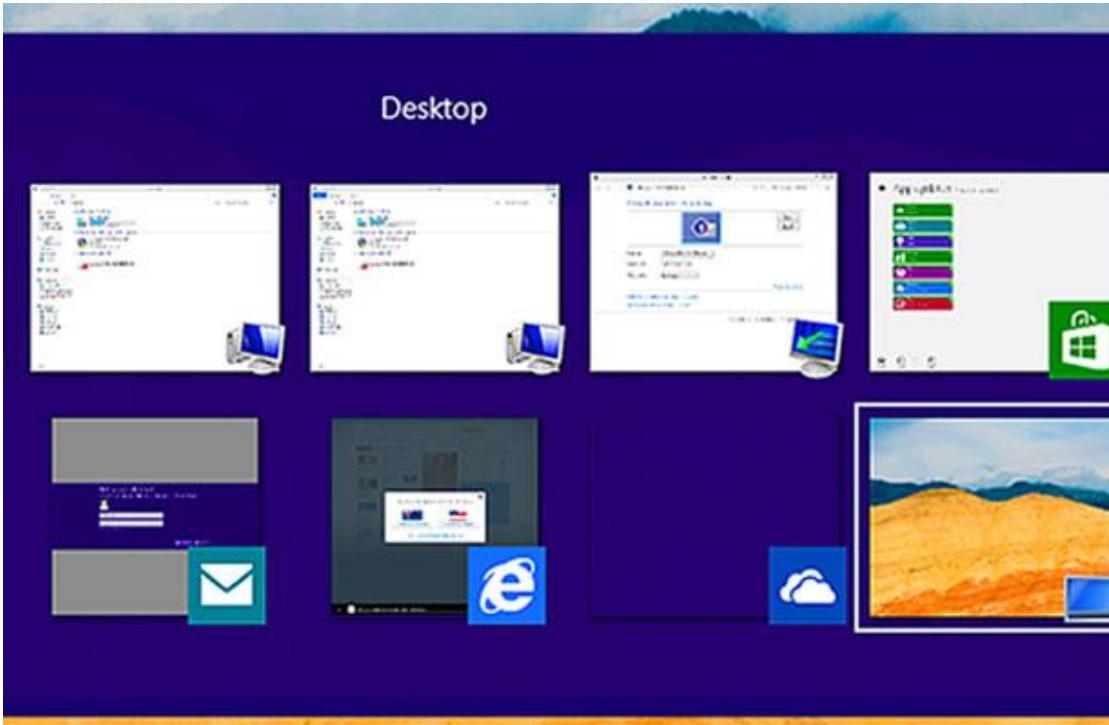
### 3. Relearning (Upprifjun)



## 4. Handoffs (Afhending)



# 5. Task Switching (Verkefnaflakk)



# 6. Delays (Seinkanir)



Delays in starting a project, delays in staffing, delays due to excessive requirements documentation, reviews, approvals, testing and deployment.

Waste: Waiting

Kanban  
for Software Development

and delays

## 7. Defects (Villur/gallar)



# The Study

1. Are Icelandic IT professionals aware of WASTE?
2. What categories of waste are serious in software development in Iceland?
3. What are the main value adding activities?



# The Interviews

- 10 formal interviews
  - 9 companies (various sizes)
    - Lasted 45 minutes – all transcribed
- Informant roles typically
  - Director of Software Development, Head of Development, Scrum Master and Product Owner
- 2 using Scrum, 3 Kanban, 5 both



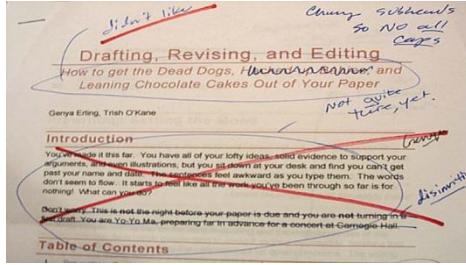
# Informants' Definition of Waste

Waste is ...

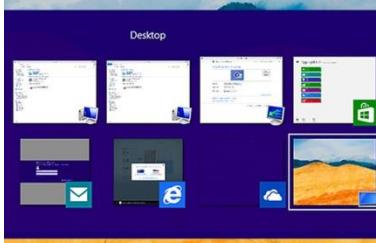
- ... work that doesn't contribute to the value.
- ... extra effort for the development team.
- ... miscommunicated requirements.
- ... complexity in the software.



# What Was Most Common?



Partially Done



Task Switching



Extra Features



Handoffs



Defects

# 1. Partially Done Work (Ókláruð vinna)

- Not familiar with the concept
- Informants mention unfinished features
- Defects can be considered as partially done:

1
2
3
4
5
6
7

“It’s an absolute waste to collect huge backlogs of defects that you review every second month and it’s only the top 10% that’s going to get ever implemented”

## 2. Extra Features (Auka fítusar)

- Many thought that there were extra features
  - But they did not know exactly how the system is used
- Some interviewees talked about what they gained
  - “We learn from it and we profit from the knowledge we gain”
- Some informants have made an effort
  - “It’s a work system, there are people in there and there is no value having this feature in there when It’s not used”

1
2
3
4
5
6
7

### 3. Relearning (Upprifjun)

- None of the informants thought this is a problem
- Preservation of knowledge
  - Wiki pages, issue tracking systems
  - Open communication process and daily meetings
  - “Everyone is open minded about asking questions and giving feedback”
- Other methods
  - Pair-Programming and reviewing



## 4. Handoffs (Afhending)

- Generally there are these handoffs:
  - Requirement elicitation, Development, Testing, Release
- Informants did not see many problems with that
- Still, one pointed out:
  - “The customer is fairly isolated from the development”
  - “A lot of information is lost, when you have a totally separated team talking to the customer”



# 5. Task Switching (Verkefnaflakk)

- Informants choose themselves what to work on
  - “Team members are self organized”
- Usually the limit on task per person is one
  - But sometimes two or three depending on the size
  - More knowledgeable persons tend to switch more
- When a sever defect is reported
  - They have to switch tasks
  - Some have a special role that takes care of the defects during that sprint



# 6. Delays (Seinkanir)

- Can be caused by missing actions by an outer stakeholder
  - „We are not synchronized enough with them. They have to do something and we have to wait“
- Miscommunication & lack of clear responsibilities
  - can be seen as reasons for delays
- Fixing defects is a common reason for delays
  - „The testing process took too long and then defects were found, which postponed the process“

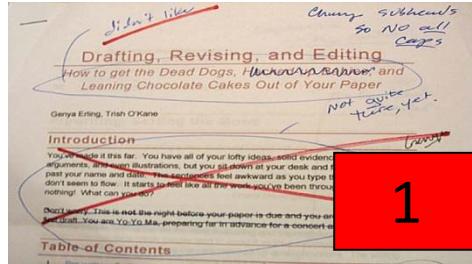


## 7. Defects (Villur/gallar)

- Defects registered and prioritize in a backlog
  - Depends sometimes on where it is found
    - in the development = not logged; in release = logged; when delivered to customer = strict change process
- Defects interrupt the working pace
- The backlog is assessed from time to time
  - One company had a zero bug policy supported by automated testing and continuous delivery approach, but commented that this was utopian



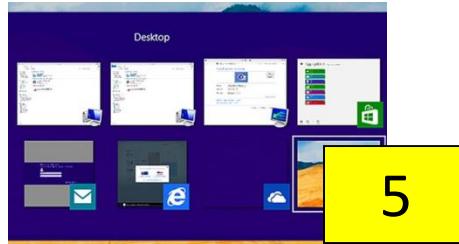
# The Results



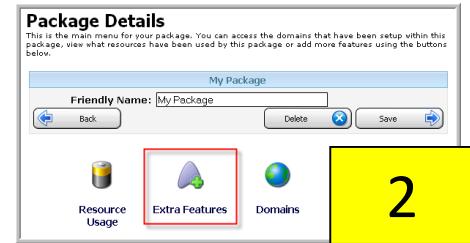
Partially Done



Relearning



Task Switching



Extra Features



Handoffs



Defects

# Value Adding – Customer Involvement

- Preferred high degree of customer involvement
  - Prefer direct contact, meetings, email or phone
  - Can prevent misunderstanding
  - Customers need to be educated
- Important that the customers formally agree
  - Especially acceptance
- The pace of Scrum can be too fast
  - „We ask for feedback, but the answer comes a lot later“



# More Value Adding Activities

- Process for Continuous Improvement
  - Defined loosely within the organization
  - Many have retrospective meetings, but not that strict agenda
  - Some are tired of hearing the „same old stories“ again and again
  - One company had improvement Friday (half a day)
- Metrics are rarely used to measure improvements
  - „The most important measure in Kanban thinking is lead time. How fast things flow through the pipeline“
  - Problematic to find meaningful and useful metrics

# Main Conclusions

- IT professionals emphasize communication with customers
  - Both direct contact and through email
  - Not always easy for the IT professionals
  - Customers not used to work that way
- The most serious non-value adding activities are:
  - Partially done work, delay and defects
  - Long lists of defects, cause delays and that they have partially done work

