Creating Pull in Knowledge work

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Do you have too much to do?

• The costs of overload are well documented.

• Overloaded organizations:
  • are less innovative
  • develop fewer products
  • have higher turnover
  • are more prone to accidents and warranty problems

• Overload is expensive, but it is ubiquitous…
The Broad Operations in 2012

Declining Demand

Turnaround Time

120+ days

Machine Utilization In

50%
Push vs. Pull

Push

Pull
BEFORE
Mean turn around time has fallen by more than 50%

And the variance is much lower

Utilization now over 90%
Business Results Follow Good Work Design

HiSeq Utilization for last 180 days (4/2/2016 to 9/29/2016) with 7-day moving average

Business Growth past 2+ years
So how do you “pull” knowledge work?
“Mental Scaffolding” and Visualization

• Recent work in psychology suggests that our understanding of abstract concepts is built on the “scaffolding” provided by physical experience (see Ackerman, Huang and Bargh)
  • Interviewers holding a cup of coffee rate job candidates as “warmer”
  • Interviewers holding a heavier clipboard rate candidates as being more “serious”
  • Touching hard objects led subjects to be more rigid in negotiation exercises

• Factories are easy (relatively speaking), because you can see the work
  • When the line stops, it’s obvious to everyone
Visual Management is “Pull” for knowledge work
The board:

-- connects activity to intent by representing each activity as a post-it
-- gives clear signals when activities are not progressing
-- enforces structured problem solving
-- facilitates optimal challenge by allowing the amount of work in the system to be clearly visualized and controlled
Have executed over 3,000 activities in the sequencing platform in 4 years

Becoming the “NUMMI” of sequencing
-- ten tours per week!

More importantly, enabling more rapid and cost-effective science on a variety of important fronts

Zika

customized work design for clinical trials for drug development (example: blood cancers)

diagnosing rare diseases in children

large scale population studies (>50,000 samples) to study the underlying mechanisms of disease in Type 2 Diabetes, Autism, Schizophrenia, Cancer
### Schedule

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Getting Started

Ideas on Priority Matrix

Agreed and Prioritized

Idea | Feasibility | Develop | Launch | Production

Pull, Not Push