THE LESS YOU DO, THE MORE IS DONE

Little's Law

Little's Law is a theorem for queuing systems. It determines the average number of items in a stationary queuing system, based on the average waiting time of an item within a system and the average number of items arriving at the system per unit of time. The long-term average number L of customers in a stationary system is equal to the long-term average effective arrival rate λ multiplied by the average time W that a customer spends in the system

$$L = \lambda \times W$$

On average 30 cars come to the fast food takeaway every hour. They usually spend 6 minutes there (0,1 hour). L= 30x0.1= 3 cars

TRANSITION TO KANBAN ADAPTATION

$$\text{Cycle Time} = \frac{\text{WIP}}{\text{Throughput}}$$

A team takes on 24 items they usually finish in four weeks and works on them simultaneously.

$$4 \text{ weeks} = \frac{24 \text{ items at once}}{24 \text{ items}/(4 \text{ weeks})}$$

If half the items are being worked on at the same time

$$2 \text{ weeks} = \frac{12 \text{ items at once}}{24 \text{ items}/(4 \text{ weeks})}$$

which enables lowering cycle time to half, meaning that the value will be delivered faster, with no other improvements.

L = The average number of work items in a queuing system / Work In Progress (WIP).

λ = The average number of items arriving at the system per unit of time / The long-term average effective arrival rate / Throughput / The rate at which the items go in and out of the system.

W = The average waiting time a work item spends in a queuing system / Lead time.

What is it for:

- Exposes the real performance
- Provides predictability
- Helps to reduce/manage multitasking
- Balancing the WIP and Lead time
- Enables setting the WIP limits
- Reduces Throughput which increases the Lead time