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Agile →

(1) When to use → ① New changes → frequently
② complex → divide
③ long term goals
④ frequency changes throughout dev
⑤ No limit to time and budget.

(2) Major principles of agile

① ~~CS~~ Customer satisfaction
② F to F
③ Continuous Feedback
④ Quick Respond to changes.
⑤ Collective work.
⑥ Self organized.
⑦ Sustainable development.

(3) What is Scrum? different from waterfall?

→ Early Feedback.
→ Optimize Risk.
→ Collaborative development
→ RoI (Return of Investment).
→ Rollbackable changes.

(4) Roles → PO SM DevTeams.

(5) Components of Agile / Ceremonies.

① Daily Standup
② Timebox tasks
③ Iteration planning meeting
④ TDD / code reviews / continuous integrations etc.
⑤ CRC cards (class Responsibilities Collaborations)

⑥ Scrum Master is a Facilitators for teams and PO
Role ranges → Scrum theory / Rules / Practices.

(6) Role of SM?
→ Scrum Master is

(7) Responsibilities
=
① PO / DevTeam / Organization
Serves
② ① Impediments Removal
② tracking the progress
③ Helping the product owner
④ Encourage team
⑤ Lead Meetings

Story points →

(1) Story point = dev effort + Testing + Resolve Dependency + other factors

(2) Story Board = Visual representation of Todo / In progress / Test / Done

(3) Daily Stand up (or) Daily Scrum.
= (1) updates /
What you have yesterday
What you are planning for today
Impediments / Road Blocker

(4) Artifacts of Scrum
→ Product Backlog → Product Backlog → Sprint Backlog.

(5) User story → Small piece of Business value.

(6) Burn up & Burn down charts
↓ ↓
Amount of work Remaining to complete.

(7) Burn charts
Sprint Status →
X (1) No. of working days.
Y (2) No of efforts
(3) Guide lines → Ideal efforts
(4) Real progress of efforts

(8) Retrospective meeting → Discuss

(9) List agile frameworks.
→ (1) Kanban.
(2) Test Driven development
(3) Feature Driven development
(4) Crystal.
(5) Extreme programming.

(10) Velocity
→ (1) Rate at which progress Sprint by Sprint ✓
(2) Velocity = No. of total Story points / one iteration

(11) What is release candidate in Scrum?

(12) SoS → 7 teams → each team has 7 members → Scrum of Scrum (dev lead)

(22) Project Management tools

1. Rally
2. Version one
3. Xplanner
4. Agilo.
5. Jira.

PSM1 → Nov 8 2017
SAFe → March 22 2019

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(1) Agile Manifesto / values & principles
= 4 12
delivery high Quality Software / Business Value.

(2) Empirical process control?

Transparency Inspection Adaptation

(3) Impediments → 1. Business problems
2. Lack of skills & knowledge.
3. ~~Cost~~

(4) Agile testing
→ unlimited Regression
→ Risk involved
→ Communication skills
→
→

(5) Scrum is not suggested.
= =
→ No requirements are static.
→ Huge group with different
→ Organization is not ready.
→

(6) disadvantages
= Tricky job
1. No clear goal hard to handle.
2. Frequent changes of product
3. Maturity & skills
4.

Waterfall
→ Sequential process.
→ Feedback later stage.
→ No changes in req
→ % of work.
→ project Manager control.

Agile
→ parallel process.
→ Early feedback.
→ Changes accepted.
→ Burndown display.
→ team will be in controlling.

Epic → Project (capability)
Feature → high level of functionality.
user → Small piece of functionality
Task → Engineering process

→ Iteration → Iterative incremental development process.
in sprint

→ Sprint → Time specific word.

Scenario

(1). time available for production

Takt time ↗

$$TT = \frac{\text{Net production time}}{\text{Customer demand} \cdot (\text{no of quantity})}$$

(2) cycle time. is WORK process Based.

$$CT = \frac{\text{net production time available}}{\text{no. of units produced}}$$

(3) lead time.

LT = Time from order to dispatch.

(4) through put → time taken

Processing time
Inspection time
Move time.
Queue time.

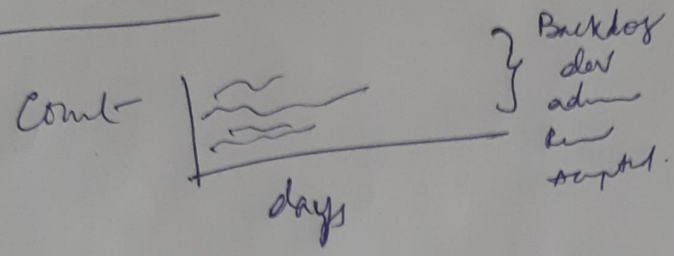
throughput = Raw material receipt till the product is dispatched.

Scrum — A framework within which people can address complex adaptive problems while productively and creatively delivering products of the highest possible values.
— light weight
— Simple to understand
— Difficult to master.

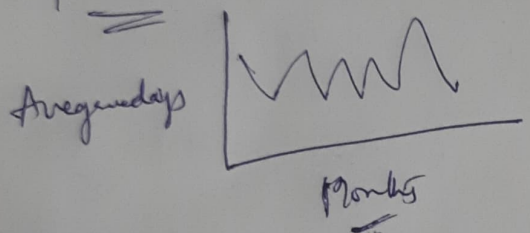
DOD → is a list of activities that need to be successfully completed to consider a work product complete.

Kanban. Reports

Cumulative flow.



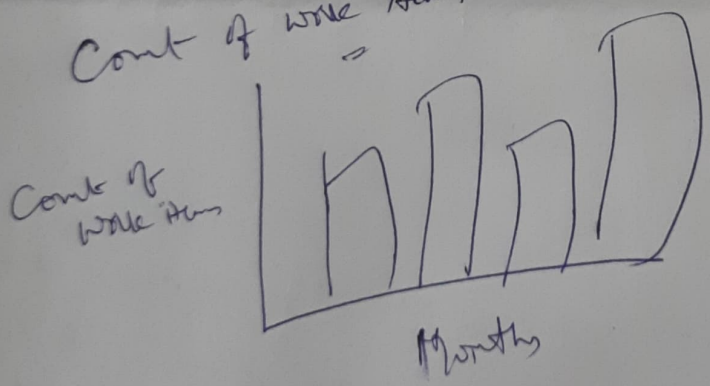
Cycle time



Average – 39.8
Count – 75
Standard dev = 42.4
Min 0
Max 239.

Inprogress to Accepted.

Count of work items



① Agile is philosophy.

② What is Agile?

→ Set of Methods and practices based on Values & principles that ~~encourage~~ encourage Iterative development & collaboration between self organized teams.

③ Values & principles.
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Values

→ Individuals & Interactions over process and tools.

→ Working Software over Comprehensive documentation

→ Customer collaboration over contract negotiation.

→ Responding to change over Following a plan.

principles

① customer satisfaction - through early and continuous software delivery.

② Accomodate changing requirements throughout the development process

③ Frequent delivery of working software.

④ collaboration between the business stakeholders & developers.

⑤ Support, trust, motivate the people involved.

⑥ Enable face-to face interactions

⑦ Working software is the primary measure of progress

⑧ Agile processes to supports a consistent development pace.

⑨ Attention to technical details and design

⑩ Simplicity.

⑪ Self organizing teams encourage great architecture requirements & design.

⑫ Regular reflections on how to become more effective.

MBO — Feature cycle time (TTV, TTB) | Mean deployment frequency (% of ...) | Team Health | CI/CD | Release compliance automation | Code quality adoption / ... | Customer reported defects.

MBO

1. Agility
   - → Feature cycle time → TTV / TTB
   - → Mean deployment frequency → % of failure
   - → Teamy Health →

2. culture → continuous Integration & Continuous delivery
   - CI/CD pipeline Usage → Release compliance → Automation → Release deployments → compliant

3. Quality
   - Code quality → Adopted / ~~non Adopted~~ } Sonar
   - → Exempt
   - Customer Reported Defects.
     - → 12 months → open / close
     - time to close.