Agile process design for excellence

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Why design the process

Why do we need to design the process? Why can't we pick the process off the shelf(e.g. xp/scrum/kanban: each prescribes standard implementable practices)?

➔ **Different operational objectives**

Every project is different. Some projects have the utmost requirement of speed, while others may give more weightage to quality or cost or flexibility for change. There can be so many other operational objectives.

➔ **Difference in resources**

Some organisations/teams have exceptional people while others have people with limited skills. There are other types of resources(e.g. access to deep market insights and industry expertise) which differ from one organisation to another.

➔ **Difference in cultures**

Every organisation has a different culture and set of values. Some organisations prefer to be aggressive while others prefer to be conservative. Some focus on skill development while others focus on mutual respect and others simply results.

➔ **Organisational constraints**

Every project has a different set of constraints (e.g. available resources, time, initial funding etc)

Why design the process (continued)

- **Organisational strengths and weaknesses**
  Every organisation has strengths in different areas and has its own weaknesses(e.g. Strong in business analysis, strong in cloud technologies, weaknesses ageing monolithic systems which are expensive to main and resources have core expertise on the ageing technologies).

With all these differences, how can a process be the same for different organisations and their projects. In other words, is it enough to pick a process like scrum off the shelf and start using it?

The importance of process design for the optimum utilization of available resources to meet the operational objectives cannot be understated. A robust process which aligns people and resources to the organisation's/project's goals is key to success.

Different actions and behaviours will result in differing performance levels in various operational areas.

Lets design the apt actions and behaviours which will result in achieving the desired outcomes.

In the next few slides we will look at how the process can be tailored to achieve the desired balance organisational objectives.

Key Objectives in process design

- ➔ Gets the best out of people
- ➔ Best utilization of available resources
- ➔ Balance the outcomes of operational objectives
- ➔ Communicated and followed sustainably
- ➔ Utilize strengths while working on weaknesses
- ➔ Adhere to and promote organisational culture and values
- ➔ Reduce the adverse effects of process design
- ➔ Improves itself (process feedback)

Preparation for the process design

- ➔ Understand operational objectives(speed/quality/cost/time to market/learning/R&D) Provide weightage to the operational objectives which need to be met
- ➔ Understand organisational culture and values
- ➔ Understand constraints
- ➔ Understand organisational strengths and weaknesses
- ➔ Choose practices(CI/CD, TDD, pair programming, requirements management) which will help achieve the above and balance the objective
- ➔ Lets assume, we want to go with scrum as the outline process. In the following slides we will see how we can fine tune its practices. Very similarly, we can fine tune any other outline process.
- ➔ Key element of process design is work allocation and control strategy.
- ➔ Understand and prepare for the adverse impact of process design(e.g. A process focussed on speed may burn out people if not handled properly)

Every battle is **won** or lost **before** it's ever **fought"** (- Sun Tzu, The art of war)

Characteristics(Strategy) of a process with key focus on quality

- ➔ Many points in the following slides are debatable… in the long run there may be a best approach to achieve many operational objective (e.g. automation testing can improve speed, reduce cost, increase quality)
- ➔ Implement Total Quality Management: Every stage is designed for adherence to quality
- ➔ Appropriate type and number of resources(comes at a cost)
- ➔ Clearly defined specifications and expectations (e.g. functional requirements, NFRs, development standards)
- ➔ At every stage verification against specification is performed(architecture/design/code review)
- ➔ Very high effort on quality related activities (code reviews, automated tests, detailed designs, various types of architecture etc)
- ➔ Specialized testing teams
- ➔ Using high end consultancies
- ➔ Upskilling resources before allocating work

Characteristics of process with key focus on lower cost

- ➔ Less expensive resources
- ➔ Lower effort on quality related activities(code reviews, automated tests)
- ➔ Outsourcing to lower cost providers
- ➔ Using off the shelf tools which provide most but not all the desired functionality
- ➔ Allow existing semi skilled resources to perform specialized roles which otherwise would have added costs(e.g. do not maintain a testing team)
- ➔ There can be many other ways to reduce the cost at the expense of quality/speed/flexibility and other process objectives

Characteristics of process with key focus on speed

- ➔ Crisp, clear, and stable requirements and standards
- ➔ Highly effective coordination: All dependencies resolved before starting on a story
- ➔ Bigger stories for synergistic gains
- ➔ Exploitation of existing knowledge: assign work to employees in those areas where their skills lie - e.g. database developer, integration developer
- ➔ Reduce the need for rework, especially in those areas having most effort in rework
- ➔ Promote teamwork to reduce learning curve and increase collaboration to gain speed (feature teams)
- ➔ Cross functional teams to reduce coordination issues
- ➔ Understand and reduce the critical path of the program. Provide more support to people working on the critical path.

Characteristics of process with key focus on speed ..continued

- ➔ Lower effort on quality related activities (code reviews, automated tests)
- ➔ Lower number of standards
- ➔ Assign additional resources
- ➔ Maintain higher skilled resources
- ➔ Maintain technical debt of non critical requirements (this can be handled later)
- ➔ Understand runners repeaters and strangers(assign work which people have handled in the past)
- ➔ Eliminate anything which slows down people: e.g. working simultaneously on several areas of the system

Implications of process design : adverse effects

- More focus on one operational area can have adverse impact on other areas.
- Some examples of adverse impacts :

  key focus on quality will result in more costs and lower speed

  Key focus on lower cost will have an impact on quality

  Key focus on speed can increase employee pressure, reduce employee learning

  Key focus on skill development can result in lower speed and higher cost

- **The adverse impacts of designed process should be understood in advance and planned for**

Monitoring and Control

- ➔ Different strategies are required to achieve different levels of control
- ➔ Team size and structure can vary the level of control
- ➔ Different process structures for different levels of control (pre planning/planning meeting, standup, kickoff meeting, signoff meeting, feature design review etc need to be implemented/fine-tuned)
- ➔ Do not implement the blanket rule of pick the top priority story (well, almost always!) - or have a strategy? WOuld it be better if more important stories are handled by your best people.
- ➔ Story Size: Shorter stories for higher control(potentially at overheads resulting in lower productivity). Bigger stories resulting in higher synergy but lower control
- ➔ Upfront architecture and design for higher control
- ➔ Fine grained standards for higher control
- ➔ Well defined acceptance criteria for higher control
- ➔ Feature teams for higher control
- ➔ Higher control can reduce employee flexibility and thus hamper creativity while lower control can

Process Feedback

- ➔ Does the process have desired results
- ➔ Regular fine-tuning may be required
- ➔ When the process design is different for different organisations, how can retrospective design be same across organisations
- ➔ Design retrospectives to get feedback on specific areas of process:(e.g. is the process working to gain best speed)
- ➔ Use retrospectives to understand what is working well and not working well and how things can be done differently for even better results. Even what is already working well can be improved.
- ➔ Are there people for whom the process is not working? If so, why not?
- ➔ Listening without interfering/judging is the key
- ➔ Don't ignore any single improvement area(understand pitfalls in grouping together improvements areas and picking top N)
- ➔ Don't wait for a retrospective for process feedback

Implementation(this is work in progess)

- ➔ Lead by example
- ➔ Tighter control over process adherence
- ➔ Keep an eye on resistance areas
- ➔ Person with right authority
- ➔ Sustainable practices
- ➔ Small steps from existing to the new process
- ➔ Process design is not sufficient alone for excellence : Look at Mackenzie 7S model

- ➔ The process designer needs to answer the question...why should the project implementing this process would be more successful over other projects which did not implement this process
- ➔ Do you want to have differences in process across projects/teams/every sprint/every epic??