

Adaptive Project Planning for Epics, Features and User Stories

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Background

- **Adaptive Project Planning**
 - Adaptive project management is a structured and systematic process that allows you to gradually improve your decisions and practices, by learning from outcomes of the decisions that you took at previous stages in the project. Project planning adapt to specific constraint.
- **Epics**
 - An Epic is a container for a Solution development initiative large enough to require analysis, the definition of a Minimum Viable Product (MVP), and financial approval before implementation.
- **Features**
 - A Feature is a service that fulfills a stakeholder need. Each feature includes a benefit hypothesis and acceptance criteria, and is sized or split as necessary to be delivered by a single Agile Release Train (ART) in a Program Increment (PI).
- **User Stories**
 - “Stories are short descriptions of a small piece of desired functionality, written in the user’s language...User stories deliver functionality directly to the end user. Enabler stories bring visibility to the work items needed to support exploration, architecture, infrastructure, and compliance.

Why we need adaptive planning?

1. Planning is tricky to teach and to learn.
2. In the research into what makes project managers successful, planning, along with monitoring and control, are the two areas where high-performance project managers spend most of their time.
3. There is no single approach to planning a project, but neither is project planning a free-for-all.

Predictive and Adaptive

- We want the whole process is predictive.
- In software all the effort is design, and thus requires creative and talented people (source code).
- Creative processes are not easily planned, and so predictability may well be an impossible target.
- We should be very wary of the traditional engineering metaphor for building software. It's a different kind of activity and requires a different process.

Predictive and Adaptive

- The Unpredictability of Requirements
 - Requirements are always changing and not easy to predict. However letting go of predictability doesn't mean you have to revert to uncontrollable chaos. Instead you need a process that can give you control over an unpredictability. That's what adaptivity is all about.
- Using Iterations to control an Unpredictable Process
 - To get some form of predictability, we need an accurate way of knowing where we are at this point. This is where feedback mechanisms and feedback loops come into play. We need to learn about ourselves (the software, team, etc).
- Adaptive Customer
- The Self-Adaptive Process
 - A project that begins using an adaptive process won't have the same process a year later. Over time, the team will find what works for them, and alter the process to fit.

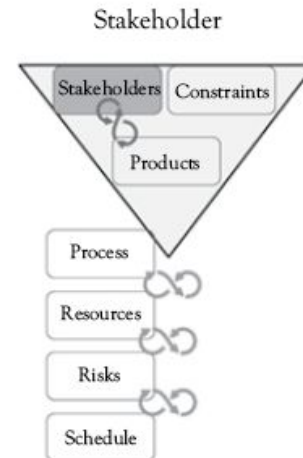
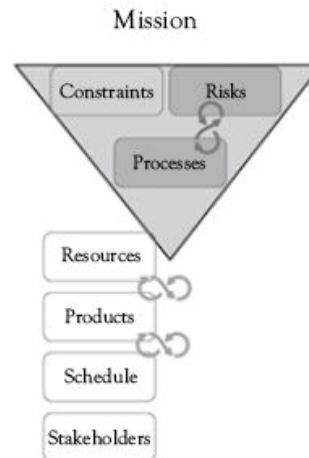
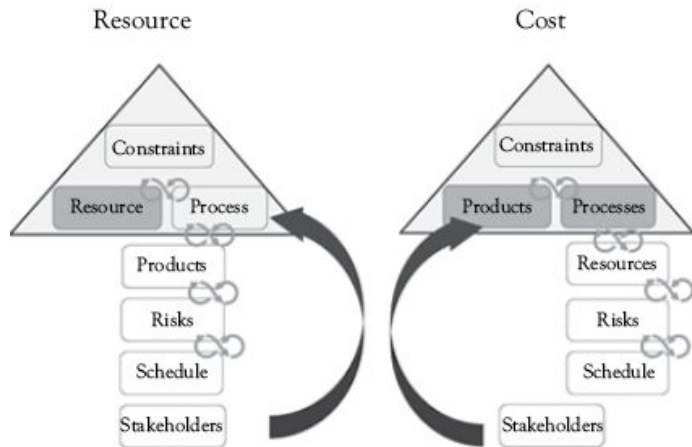
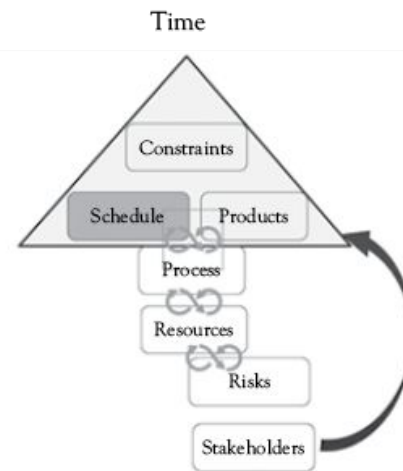
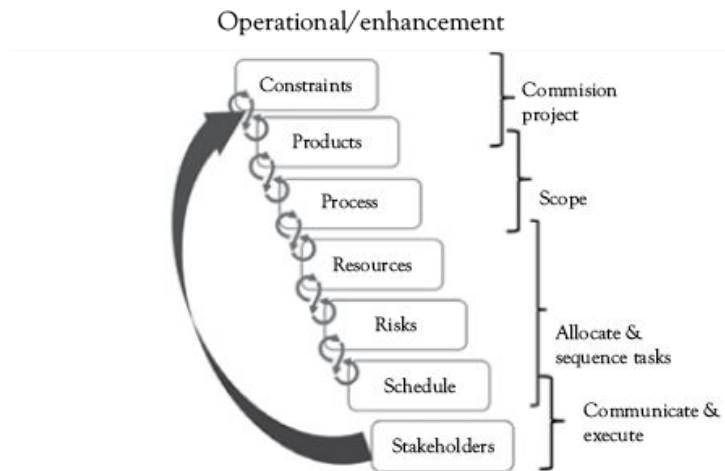


Figure 1

Planning approach based on constraint type

Case Study 1: Integrated Rapid Transport (IRT) system of Cape Town

- Stakeholder-led projects
- In 2007, the City of Cape Town started a major transport infrastructure program to introduce the integrated rapid transport (IRT) system.
- It was clear to the City of Cape Town program team that if they were to be successful in the IRT implementation, integration with the local transport businesses into the new service would be crucial, and that would mean formalizing an informal industry which had resisted regularization for many years.

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Agile

- Agile methodology is an approach used for the development of a project which helps to respond to the unpredictability of building software through incremental, iterative work cadences.
- Agile methods are adaptive rather than predictive.
- Agile methods are people-oriented rather than process-oriented.
- XP and Scrum
 - XP has strong emphasis on testing.
 - Scrum concentrates on the management aspects of software development, dividing development into thirty day iterations (called 'sprints') and applying closer monitoring and control with daily scrum meetings.

Case Study 2: Applying Agile Software Development on a Web Application

- In agile development process by using XP methodology, the stories can be divided in two number of small depending on the time factor (if a story exceeds 3 week s for the development that can be divided in to small stories). So in XP the changes can be allowed in the middle of the development.
 - For example, in this case study if we consider the legal issues, adding of another new requirement related to complaint like cybercrime will cause some change in the development which is going to have effect on the size of the story which already have been specified. These types of changes can be acceptable in XP.
- In Scrum once the sprints are identified and allotted to the team members they must be stable because they are frozen. No modifications are allowed until the completion of the development of that sprint. Adding of new sprints in the middle of the development is not possible. In XP team size should not exceed 10 members, and it is limited to 7 in scrum.
- XP will not support the distributed development, scrum will support.

Benefit of Adaptive Planning for Epics, Features and User Stories

- User stories are short, simple description of a feature told from the perspective of the person who desires the new capability.
- User stories can be written at varying levels of detail. Thus, user stories can be written to cover large amounts of functionality. These are generally known as *epics*.
 - An example: ***As a user, I can backup my entire drive***
- Epics are generally too large to complete in one agile iteration. It is split into smaller user stories. The above epic can be split into dozens (or hundreds) of user stories:
 - ***As a power user, I can specify files or folders to backup based on file size, date created and date modified.***
 - ***As a user, I can indicate folders not to backup so that my backup drive isn't filled up with things I don't need saved.***
- User stories are often misunderstood as small bits of requirements that help postpone analysis, but that's not what adaptive planning should be about. Adaptive plans help organisations turn a changing landscape into a competitive advantage, react faster than the market and accelerate product discovery.

Conclusion

- Adaptive Project management, despite its checkered history of success, is the most influential management approach of the twentieth century, and many great things have been done using it. Gaining mastery over uncertainty by using plans to shape the world; structuring the work people do and ordering the environment to make things possible and gives a great sense of accomplishment.

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