Agile Development

A style of project management that focuses on early delivery of business value, continuous improvement of the project's product and processes, scope flexibility, team input & delivering well-tested products that reflect customer needs

Project :- A planned program of work that requires a definite amount of time & planning to complete.

Projects have goals & objectives & often must be completed in some fixed period of time & within a certain budget.

Agile approaches are response to the need to modernize project management.

Origins of Modern Project Management

· Project Management as a formal discipline started in World War II
[Step by step manufacturing model]

1970, the term Waterfall coined by Winston Royce
① Req.
② Design
③ Development
④ Integration
⑤ Testing
⑥ Deployment.

MOVE TO NEXT PHASE ONLY WHEN PRIOR ONE IS COMPLETE

Software Project Success & failure

2.9 percent of traditional projects failed outright

→ Cancelled before release / No value

60 percent of traditional projects were challenged.

→ Graps between expected & actual cost, time, quality....

11 percent of projects succeeded.

Problems with Status quo

⇒ Computer Technology - has changed a lot.

People using computers have changed as well.

· Processes have also changed from step by-step to · Water/

Traditional Projects suffer from " ·SCOPE BLOAT "

Introduction of unnecessary product features in a Proje

On average 64 % of requested features are rarely or ne
used.

Enormous waste of time & money.
This ·Waste resulted from traditional proj. mgmt processes
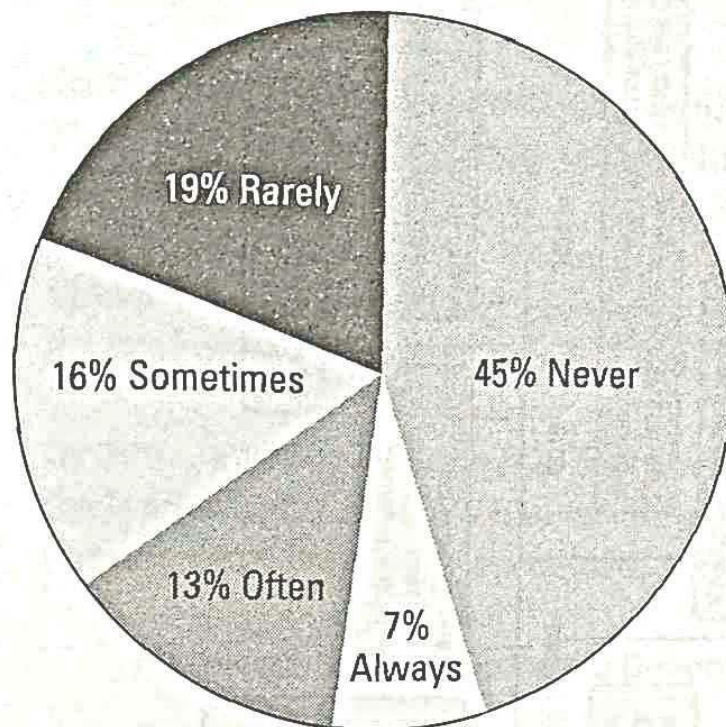that are unable to accomodate change.

FIGURE 1-1:
Actual use of
requested
software
features.

19% Rarely

16% Sometimes

45% Never

13% Often

7% Always

Change is not welcome Mid-Project.

Thus project manager & stakeholders · ask for

— · Everything they need
— Everything they think they may need
— they want
— they think they may want

Outdated Management & development of approaches

|| Causes

Waste of . Billions of dollars · a year

To work towards creating a better model.
[Agile Project Managemt]

Codification of common sense.

In 1986, Hirofaka Takeuchi & Ikujiro Nonaka published an article called "new product dev. game" in Harvard business review.

This article described a rapid, flexible development strategy to meet fast paced product demands.
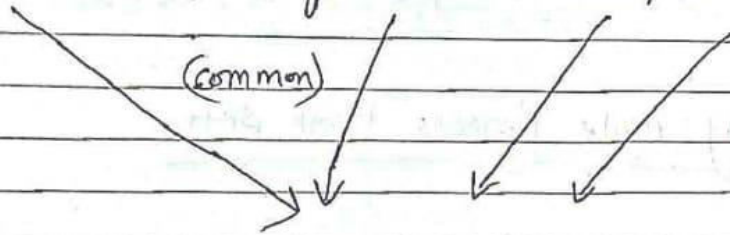
In 2001, a group of s/w & project experts talked about what their successful projects had in common. They created "Agile Manifesto"

Agile Manifesto is a statement of values for successful software developement.

|| .

Agile is a descriptor for Project management approaches that focus on people, communications, the product & flexibility.

All agile methodologies, frameworks, techniques & tools

(common)

Adherence to Agile Manifesto & 12 agile principles.

How Agile Projects Work

Based on Empirical Control method.
A process of making decisions based on realities observed in the project.

effective in both new & upgrade projects

Empirical Control requires
① Unfettered transparency

② Frequent Inspection

③ Immediate Adaptation.

To accommodate freq. inspection & immediate adaption, "Agile Projects work in Iterations"

Breaking the project in to Iterations. also called SPRINTS

-TRADITIONAL WATERFALL-

REQUIREMENTS	HIGHEST
	HIGH
	MEDIUM
	LOWER
	OPTIONAL

DESIGN	HIGHEST
	HIGH
	MEDIUM
	LOWER
	OPTIONAL

DEVELOPMENT	HIGHEST
	HIGH
	MEDIUM
	LOWER
	OPTIONAL

TESTING	HIGHEST
	HIGH
	MEDIUM
	LOWER
	OPTIONAL

DEPLOY	HIGHEST
	HIGH
	MEDIUM
	LOWER
	OPTIONAL

START

RELEASE

——————————— RISK ACCUMULATION ———————————

-AGILE-

SPRINT 1: Highest Priority Features

SPRINT 2: High Priority Features

SPRINT 3: Medium Priority Features

SPRINT 4: Lower Priority Features

SPRINT 5: Optional Priority Features

FIGURE 1-3:
Waterfall versus
agile project.

Refering fig. to show difference between linear Waterfall and can agile project.

Instead of completing steps for all product features at once, we break png in to iterations.

Why Agile Projects Work Better

(1) Project Success Rate :

⟹ Risk of failure falls to almost nothing

⟹ Ensure early success or early failure.

⟹ Testing throughout the project ensure that you find problems early

(2) Scope Creep Minimization

⟹ Easy to accomodate changes throughout a project.

(3) Inspection & adaption

⟹ Frequent feedback from complete development cycles.

⟹ Working shippable functionality.

⟹ Improves processes & product with each sprint