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TE COMPS B

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1) As the technology changes, the user requirements & environment on which software is working also changes so every organization is ranked based on the software engineering principles used by that organization
ii) Without any standard methodology for implementing complex software systems with high quality.
iii) Extending the previous software to add new functionality requires more cost in terms of time to develop & efforts taken by people, as compare to the process of developing new software to provide that functionality.

2) i) Waterfall model - Sequential & linear approach. Each phase must be completed before moving to the next one.
ii) V-model - Parallel development & testing approach. Each development phase is followed by a corresponding testing phase.
iii) Incremental model - Similar to iterative models but the software is built in increments, each delivering specific functionality
iv) Iterative model - Similar to agile, but with more structured & defined phases. Each interation may include a subset of the software functionality

2) → The CMM model application in software development has sometimes been problematic. Applying multiple models that are not integrated within across an organization could be costly in training appraisals, & improvement activities
- CMMI framework consists of a collection of computer programs based on knowledge, engineering, software engineering, integrated product & process development & provider sourcing
- CMMI framework has three groups as:
1. CMMI for development (CMMI-DEV)
2. CMMI for servia (CMMI-SVC)
3. CMMI for aquisation (CMMI-ACQ)

4. Prespective process model	Evolutionary process model
It can occumodate changing requirement	i) Stages consists of growing increments of an operational software prode
It is more popular	ii) It is less popular
It is linear	iii) It is Non-linear
The complexity of error increases because of the nature of the model	iv] The complexity of error is low, the prodype enable the use to detect error earlier in the process
] Eg: waterfall model, Incremental models.	Scrum, Spiral, RAD model

5) a) Incremental model:
When a project can be divided into smaller functional increments, allowing certain modules to be developed & delievered independently while ensuring integration & testing along the way

b) Waterfall model
When requirements are stable & changes are minimal, making it possible to plan & execute the project in a linear sequence of phases.

c) Agile model
When flexibility & adaptability are crucial & the project can be divided into smaller increments with frequent iterations, allowing for continous & changes

6) Waterfall model v/s Agile model

a) Progress measures progress based on complete phases
b) Flexibility
i) Waterfall is less adaptable to change after starting
c) Planning
i) Waterfall focuses on comprehensive upfront planning
d) Feedback
i) waterfall has limited feedback until the end

7) i) waterfall → slower development due to sequential phases & upfront planning
ii) Agile (Scrum) → Faster development due to iterative sprints

b) Customer satisfaction
i) Waterfall → Assed mostly at project completion
→ metrics: User acceptance Testing, stak
hidden feedback
ii) Agile (Scrum) → Enchanged customer satisfaction due to regular iterations

b) Customer satisfaction

i) Waterfall -> Assed mostly at project completion
-> metrics: User acceptance Testing, stake holder feedback

ii) Agile (Scrum) -> Enchanged customer satisfaction due to regular iterations

a) Features	Water modell	Incremental mod	prototyping model	Spiral model
Requirement specifical	well understood	Not well understood	Not well understood	well understood
Understanding requirement	well understood	Not well understood	Not well understood	well understood
Availability of resuable components	NO	Yess	Yes	Yes
Risk analysis	only at the begining	NO risk analysis	No risk analysis	Yes
User inviroment	Only at the begning	Intermediate	high	High
flexibility	Rigid	less	High	Flexible
cost control	yes	No	No	Yes