Agile UNIT-5

Market Scenario & adoption of agile, Roles in agile project, Agile applicability, Agile in distributed teams, Business benefits, Challenges in Agile, Risk & Mitigation, Agile Project on Cloud, Balancing Agility with Discipline, Agile rapid development Technologies

UNIT-5 (Market Scenario & Adaptation of Agile).

- Today's business landscape is changing rapidly & marketers are at forefront when it came to face the change.
- Agile market research is revolutionary.
- Agile market research is application of agile sfw development methods & to practice of market research, enabling teams to test, iterate & launch products more efficiently
- It is a customer centric approach.
- New products get to right customers faster, companies keep a real time pulse on there existing customers.
- When we combine the agile methodology with innovative DIY market research tools, we get powerful tools that anyone can put to work for variety of use cases:
  - → product development
  - → consumer behaviours
  - → concept testing
  - → brand performance
  - → market sizing
- The emergence of new technologies at shorter intervals has rendered long term marketing practices irrelevant.
- By the time people get use to new technologies & master it, a better & new solution arrives.
- List of 5 ways in which agile market is revolutionizing
  - → Market research - automation makes us faster & productive

⇒ AI makes us smarter.
⇒ New products serves increasingly specific use cases.
⇒ Insight experts are not only the one getting insights
⇒ Agile research is becoming part of many team's annual strategy.

Advantages of Agile Marketing →

- ensures optimum efficiency.
- cost saving by preventing wastage of time & resources.
- ensures maximum effectiveness.
- avoid repition of mistakes
- track performance of their campaigns.

Adoption of Agile → It has become a trend in s/w dev. industry for faster delivery, increased collaboration & improved responsiveness to changes.

Drivers for Agile adoption →

1) Market demands → increase in competition & rapidly evolving market tends necessitate faster delivery.
2) Customer Expectation → customers expects s/w to be flexible, adaptable & reliable to their evolving needs.
3) Complexity & Uncertainty → Agile methodologies offer better strategy for managing complexity.
4) Empowerment & Ownership → Agile empowers team to take ownership of their work, make decisions collaboratively.

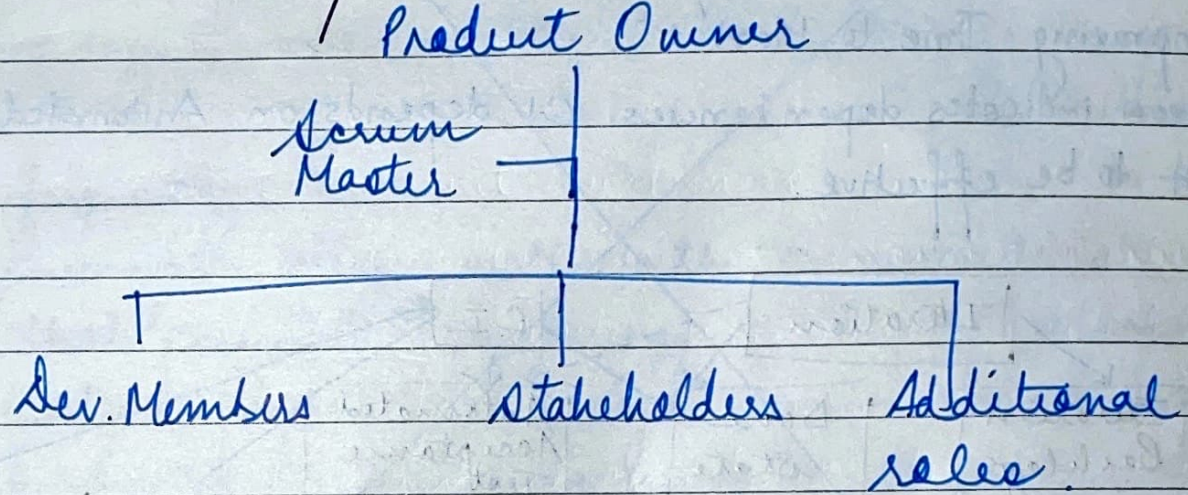
Challenges in adoption → (i) Cultural Shift of mindsets (ii) Lack of agile expertise & skills (iii) Inadequate tooling, infastructure and support system. (iv) Resistance to change from traditional approach

The below is the also the answer for business benifits of Agile.

#Key principles →

(i) Iterative development
(ii) Customer Collaboration
(iii) Continuous Feedback.
(iv) Adaptability
(v) Flexibility.
(vi) Continuous Improvement
(vii) Risk Managements.

Agile Roles & Responsibilities



1.) Product Owner → (i) scrum backlog management
(ii) release management
(iii) stakeholder management

2) Scrum Master → (i) Facilitating daily Scrum & Sprint
ii) Communic. b/w Team about evolving req. & planning
iii) Coaching on team members on ~~res~~ delivering results
iv) Conducting meets, facilitating collaboration.

3) Dev Members → The required skill might be wrapped in 1 or more dev team members:
a) Product designer b) Writer c) Programmer d) Tester

4) Stakeholders → They maybe a) end user b) investors c) Scrum members d) Auditors e) Business executives

5) Additional roles can include:

a) Technical & domain expert → knowledge of technology

b) An independent testing & audit team

c) An architect owner for planning & decision making

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Agile applicability → Agile methods have proven to be highly applicable & beneficial in s/w development.

1) Project Size & Complexity → Agile methods are particularly well suited for small to medium sized projects with moderate complexity.
2) Team Size → Agile works best with small, cross functional teams that collaborate closely.
3) Customer Involvement → Agile emphasizes customer collaboration & feedback throughout dev. process.
4) Changing requirements → Agile is suitable for projects with high level of uncertainty, where requirements change frequently.
5) Agile principles allign well with organizational cultures that prioritize transparency, flexibility & collaboration
6) Scalability & Adaptability → Agile methodologies can be scaled & adapted to suite the needs of larger projects, distributed teams & complex environments.

Agile in Distributed Team →

- Advantages → (i) Employe retention → policies that are designed to prevent employees from leaving.
  (ii) Access to global pool of talent
  (iii) Soft Skills development
  (iv) Productivity improvement
- Disadvantages →
  (i) Communication challenge → emphasis clear & freq. comm. through video call.
  (ii) Technical Issues
  (iii) Potential salary cuts
  (iv) Cultural Adaptation

Challenges in Agile →

1) Lack of clarity → unclear req. can lead to confusions
2) Cultural Shift → leads to change in mindsets, roles which can be challenging for some teams.
3) Maintaining a balance b/w flexibility & scalability in Agile dev. can be a challenge.
4) Continuous Improvement → It requires more time & efforts from all team members.
5) Lack of domain expertise
6) Lack of tools & infrastructure
7) Effective collaboration in cross functional & distributed teams can be challenging.

Risk Mitigation → Agile is all about Risk Mitigation

- Process frameworks like Waterfall introduces high level risks
- Agile principles work to deliver "values". It is accomplished through continuous delivery as requirements are discovered by reducing risk.
- Agile exposes & provides opportunity to recognise & mitigate risk early.
- Risk Mitigation is achieved through:
  a) cross functional teams.
  b) sustainable delivery pace.
  c) continuous feedback.
  d) good engineering practices
- Agile tries to answer questions to determine risk in following areas:

→ Business
→ Technical
→ Feedback
→ Organizational

Agile + Cloud → It is an information platform for designing complex information system requirements very quickly while maintaining a high quality info. model
→ It can be used in any known industry.
→ Agile cloud states that better the information design, less work is required to implement the application.
→ Agile Cloud information design is perfect. It results in drastic reduction in code length almost to zero coding.
→ Agile Cloud implementation are code free.

Agile Cloud is two things :

1) It is a design tool for creating high quality info system very fast. The system has data integrity, accurate and reliable.
2) It is an information system for data entry and reporting. For large enterprise, it is designed to compliment your ERP systems. Cloud provides flexibility to ERP systems.

Balancing Agility & Plan driven methods →

Step 1: Rate project's environmental, agile & plan driven risks. If uncertain about ratings, buy info via prototyping data collection & analysis.

Step 2a: If agility risks dominate plan risks, go risk based plan driven.

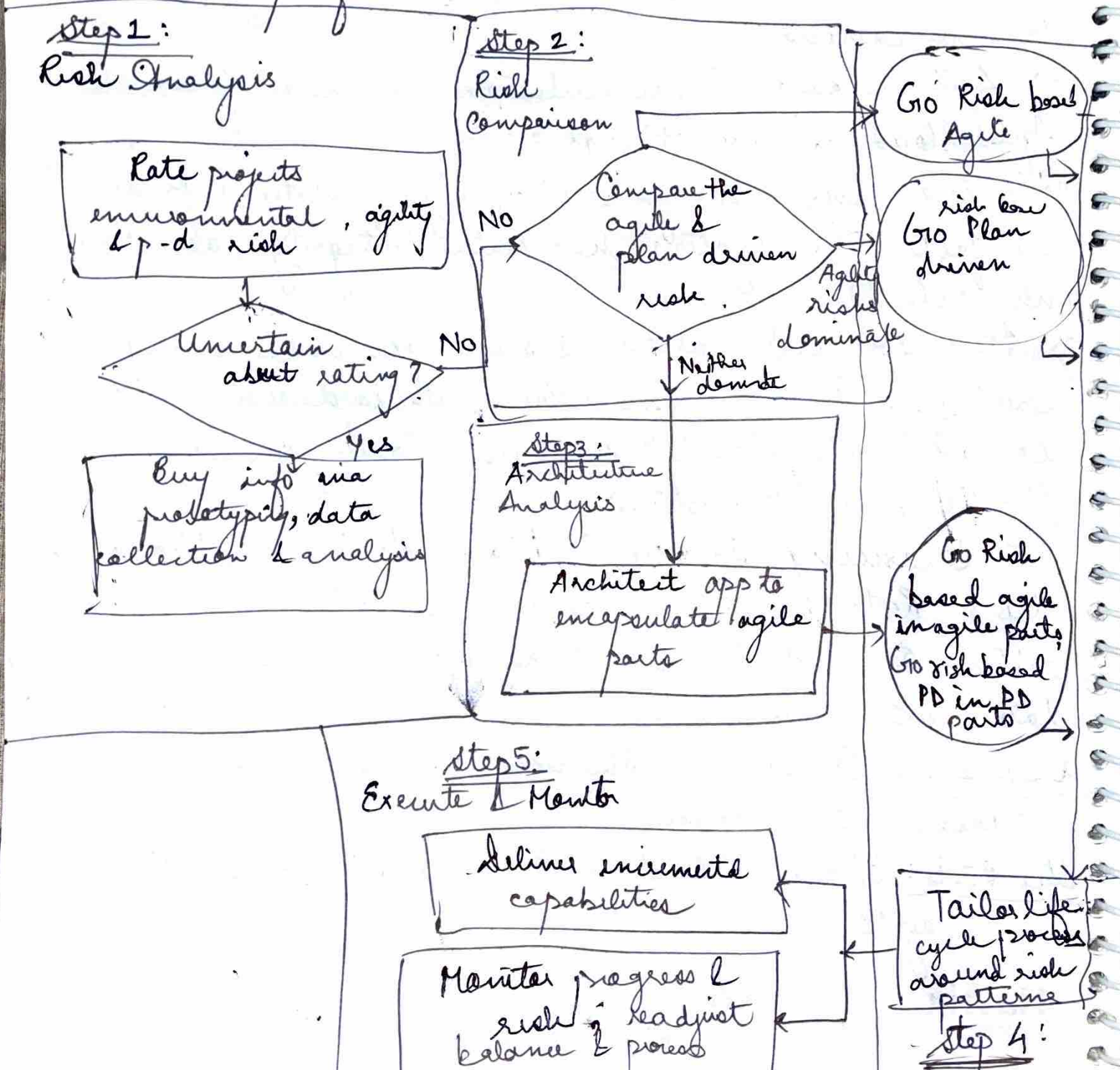
Step 2b: If plan risks dominate agility risks, go a risk based agile.

Step 3: If parts of app. satisfy 2a & others 2b, architect the app. to encapsulate agile parts. Go risk based agile in agile parts & risk based plan-driven elsewhere.

Step 4: Establish an overall project strategy by integrating individual risk mitigation plans.

Step 5: Monitor progress & risks, re-adjust balance & process as appropriate. ...

Summary of risk based method →



Categories of Risk →

o) Environmental → Risk that results from project's general environment.
- E-Tech → Technology uncertainties
- E-Coord → Many diverse stakeholders to coordinate
- E-Complex → Complex system of systems

o) Agile → risks that are specific to use of agile methods
- A-Scale → Scalability & criticality
- A-Yagni → Use of simple design or YAGNI
- A-Churn → Personnel turnover
- A-Skill → Not enough people skilled

o) Plan driven → risks that are specific to the use of plan driven methods.
- P-Change → Rapid change
- P-Speed → Need for rapid results
- P-Emerge → Emergent requirements
- P-Skill → Not enough people skilled.

Agile Rapid Development Technologies → Agile itself is not a technology but there are several RDT which uses agile methods:

1) Continuous Integration → practice where code changes are integrated in shared repo frequently. eg:- Jenkins
2) Test Driven Development → automated tests are written before code is implemented. eg:- JUNIT
3) DevOps → promotes collaboration b/w dev & ops team enabling faster & reliable s/w delivery. eg:- Kubernetes
4) Containerization → enables dev to package applications & their dependencies in light weight & portable containers. eg:- Docker
5) Pair programming → 2 dev. working together at same workstation — one writing code; another reviewing it. eg:- Zoom, Visual Studio Live Share.
6) Continuous Deployment → Puppet