Online Agriculture Project

Ans 1- Goal – To develop an Online Agriculture store for farmers to connect directly with Manufacturer for seeds, pesticides, fertilizers etc.

Inputs – Farmers Needs, Manufacturer data, Technology, Investments, Human Resources

Resources – APT IT Solutions , Soony Company, Infrastructure (IT), Payment gateway

Output – online Agriculture store through web or app, ordering system, tracking system, user friendly , payment gateway.

Activities – Requirement Gathering , system development, Testing, Training, Maintenance & updated

End customers (Farmers) – Convenience, Cost, accessing, Efficient, transparency.

Ans 2 – Strength – strong CSR activity , Market Need, Direct relationship between Manufacturer & farmer, Scalability

Weakness – New Domain(new in agriculture), Internet connectivity (Remote Area), Adoption challenges (being a Farmer), Logistics.

Opportunities – Digital transformation, Different aspects on one platform, Direct communication, Government support, Untapped Market

Threats – Regulations & Compliance, Competition, Trust issues of farmers, Data capturing issue, Cybersecurity, Reliability of buyer & Seller

Ans 3 \_ to do feasibility study on doing this project in Technology (Java), HW (Hardware requirement) will be Server, Storage of data, Network & security, End user. And for SW (Software Requirement ) – Frontend, backend, database, cloud services, Payment gateway Security. Development & testing, App consideration (IOS or Android) etc.

Ans 4\_ The purpose of the GAP analysis is to compare the currect(AS\_IS) process of farmers purchasing the Agricultural products with the Proposed (TO\_BE) future process after implementing the online store.

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| Aspects | Challenge | AS\_IS | TO\_BE |
| Product Procurement including Costing and availability | Middleman involve with their additional charges | They buy all the stuff from local distributors or Middlemen. Higher on price as it includes their commissions. | They can order directly, no middlemen is involved. It is cheaper and transparent. |
| Access to Manufacturer | Dependency & Reliability | They have depend on local distributer, No direct connect with Manufacturer | They can compare the prices & direct communicate. |
| Purchase Process | Carrying cash | Risk of carrying cash and credit option is limited. | No travel required, can pay in installment or on credit. |
| Delivery and Logistics | Third party or Additional Cost | Either you have to depend on the third party to deliver the goods on your shop or pay extra on delivery charges. | Delivery is included on the product or it will be delivered at your doorstep. |
| Product Quality Assurance | Risk of fake/low Quality | No guarantee of product authenticity. | Guaranteed product with good quality. |

Ans\_5 – Risk factors involve in BA risks are – Information/requirement gathering, Stakeholder expectations, Stakeholder meetings, Scope definition, Lack of user adoption, Data collection & Quality Issues, Regulatory & Compliance risk, Cybersecurity Risk

Ans\_6 - **Decision Makers (High Influence & High Decision-Making Power):**

* **Mr. Henry** (Project Sponsor, Final Approval)
* **Mr. Pandu** (Financial Head, Budget Control)
* **Mr. Karthik** (Delivery Head, Execution Oversight)
* **Mr. Vandanam** (Project Manager, Technical Decisions)

**Influencers (High Influence but Low/Medium Decision-Making Power):**

* **Mr. Dooku** (Project Coordinator, Bridges SOONY & APT IT)
* **Peter, Kevin, Ben** (Provide real-time farmer feedback)
* **Ms. Juhi** (Senior Java Developer, Key Technical Expert)

Ans\_7 – Business Case Document:

1. Summary - Agriculture is the backbone of our economy, yet farmers in remote areas face challenges in procuring essential farming inputs such as fertilizers, seeds, and pesticides. They rely on local distributors and middlemen, leading to higher costs, limited product availability, and unreliable quality.
2. Problem Statement - Challenges
* High costs due to middlemen.
* Limited access to certified fertilizers, seeds, and pesticides.
* Time-consuming (farmers need to visit urban markets).
* Lack of price transparency and poor product quality control.
* Limited digital payment options, leading to dependency on cash transactions.

Proposed Solution

* A centralized online platform for farmers and manufacturers.
* Direct purchasing from manufacturers, eliminating middlemen.
* Doorstep delivery through logistics partners.
* Secure online transactions (UPI, Bank Transfers, COD).
* Multilingual & user-friendly interface for easy adoption.
1. Project Scope & Objective
2. Budget
3. Stakeholders
4. Project Timeline & Milestone
5. Approval & sign off

Ans\_8 - When discussing Software Development Life Cycle (SDLC), it’s important to understand the different methodologies used to develop software. Each approach has its own strengths and weaknesses, depending on the project’s needs.

* Sequential (Waterfall Model) - The Waterfall model follows a linear and step-by-step process where each phase must be completed before moving to the next.
* Iterative Model -The Iterative model develops the software in small cycles, refining the product with each iteration based on feedback.
* Evolutionary Model - Evolutionary model is similar to the Iterative Model but focuses more on building a working system quickly and continuously evolving it
* Agile Methodology - Agile development follows a collaborative, incremental approach where the project is divided into small tasks (Sprints), usually 2-4 weeks long.

Agile with Evolutionary Model will ensure quick delivery of a usable platform while continuously refining it based on real user feedback from farmers and manufacturers.

Ans\_9 – As a BA, I will prefer to go with Agile (scrum) For continuous Improvements and better stakeholder engagement, the second preference would be RUP for structured yet flexible approach.

Ans 10 – Waterfall Model

* Its approach is Linear, phase-by-phase.
* Testing done at the end after development.
* Rigid – Difficult to accommodate changes.
* Higher risk due to late testing.
* Well-defined, stable projects.

V – Model –

* Its Approach is Verification & Validation happen in parallel.
* Testing done at each phase alongside development.
* Rigid – Changes are costly due to early validation.
* Lower risk due to early defect detection.
* Projects needing strict quality control.

Ans 11 - As a BA, I recommend the Agile (Scrum) model over Waterfall or V-Model because this project requires flexibility, continuous user feedback, and iterative development. Farmers' needs may evolve, and Agile allows early testing, quick adaptations, and faster delivery of a usable product, ensuring a user-friendly and efficient online agriculture store.

Ans 12 - V-Model Phases Mapped in the Gantt Chart

| **Phase** | Description | Responsible Resources |
| --- | --- | --- |
| **RG (Requirement Gathering)** | Collect business & functional requirements | BA, PM, SMEs, Stakeholders |
| **RA (Requirement Analysis)** | Analyze and document requirements | BA, PM |
| **Design** | Create system architecture & UI design | BA, Java Developers, DB Admin, NW Admin |
| **D1 (Development Phase 1)** | Develop core modules | Java Developers, DB Admin |
| **T1 (Testing Phase 1)** | Unit Testing for D1 | Testers |
| **D2 (Development Phase 2)** | Additional features & enhancements | Java Developers |
| **T2 (Testing Phase 2)** | Integration Testing for D1 & D2 | Testers |
| **D3 (Development Phase 3)** | Further module development | Java Developers, DB Admin |
| **T3 (Testing Phase 3)** | System Testing | Testers |
| **D4 (Development Phase 4)** | Final development & refinements | Java Developers, DB Admin, NW Admin |
| **T4 (Testing Phase 4)** | Regression & Performance Testing | Testers |
| **UAT (User Acceptance Testing)** | Final testing by stakeholders | Farmers, SMEs, Testers |

Ans 13 -

* Fixed Bid: A project with a predefined scope, cost, and timeline. The vendor delivers within the agreed constraints, bearing the risk of overruns.
* Billing Projects: Clients pay based on actual hours/resources used, offering flexibility but increasing cost variability.

Ans 14 -

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| SDLC Phase | Task Performed | Estimated time (Per Week) |
| Design | Review UI/UX, validate system design with developers & architects |

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| 15-20 hrs |

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| Development (D1 - D4) |  |

 | Support developers, clarify requirements, handle change requests |

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| 10-15 hrs |

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| Testing (T1 - T4) |  |

 | Assist in test case reviews, validate functionality, conduct UAT | 20-25 hrs |
| Deployment & UAT | Ensure business requirements are met, support go-live | 15-20 hrs |
| Post-Implementation | Gather user feedback, document improvements | 10-15 hrs |