**Q1 BPM – Online Agriculture Platform**

Goal: The goal is to build this online store is to facilitate farmers to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity.

Inputs: The input is the amount (2 CR) invested plus the people or resources involved in building the platform also the time of 18 months for developing the project.

Resources: Mr Vandanam/ Mr Manish/ Ms Juhi/Mr Teyson/Ms Lucie/Mr Tucker/Mr Bravo/Mr Mike/Mr John/Mr Jason/Ms Alekya/

Output: Output for this would be a Platform where the buyers can place an order for the 3 products, sellers can add details of the product and also, they can sell products online.

Activities: Registration/login of the user, choosing of the product after reading the available information/ Adding the product to the cart/Placing the order after adding the complete address/ Payment gateway for payment options or COD option/Seller to add the product details.

Value created to end user: Information about the product on the application/Delivery of product (Fertilizers/Seeds/Pesticides) at their convenience at home,

**Q2 SWOT**

**Strengths**

Available talent pool for this project such as Project Manager, Java Developers, Business Analyst, Database admin, Tester etc.

**Weakness**

One of the weaknesses could be considers as only 2 Cr budget is allocated for 18 months so many resources are being utilized a single project

**Opportunities**

Opportunity for API IT solutions is to implement this project successfully before or on time (18 months) which can help them to generate the revenue of 2 Cr plus open the gate for getting more development projects from other companies as well.

Opportunity to expand its portfolio

Opportunity of more growth if this project is successfully implemented.

**Threats**

Since the timeframe is long and if this company fails to deliver the project as per stakeholders’ expectation than the client could go away to competitors from next time onwards.

Global economic instability may occur in this 18 months’ timeframe like covid pandemic or new virus (chpv) etc

**Q3 Feasibility Study (HW SW Trained Resources Budget Time frame)**

Hardware: APT IT solutions should have the laptops (sufficient Ram/ROM/Storage) / Database Infrastructure for handling data part of the project.

Software: Java/Development tools/Operating systems for developing the mobile application and Desktop site.

Trained Resources: APT IT solutions have Project Manager (Mr Vandanam), Business Analyst (Mr Manish), Senior Java Developer (Ms Juhi), 4 trained Java resources, Network Admin (Mr Mike), Database admin (John), Tester (Mr Jayson & Ms Alkeya), So he almost has everyone who is required in developing a project.

Budget: Since the project is allocated for a 2 Cr revenue so the APT IT Solutions have this much budget to allocate the resources according to their time properly.

Time Frame: Since the maximum time frame for this project would be 18 months but the company can try for completing the project as soon as possible and then try to test it accordingly to the deliverables and they should deliver the project.

**Q4 Gap Analysis**

**AS – IS**

Currently the farmers ned to visit the market to buy the Pesticides/Fertilizers/Seeds)

Currently the sellers need to sell their products to the local vendors or shops available/present in the market.

**TO – BE**

Farmers go through the Mobile application or the site to search for the product rad about the product information and order it from there.

Sellers can register themselves on the platform and add details about the product onto the website and sell the product through this portal.

**Q5 Risk Analysis**

**BA Risk**

Lack of Development training/Testing training/Technology training of the resources at the API IT solutions.

Getting the signoff from the stakeholders on the complete requirements for developing this project.

Change management - Since the project needs to be completed in 18 months timeframe and under the budget of 2 Cr.

Sometimes it might get difficult for the BA to coordinate between Developers and Testers.

**Project Risk**

Unmet Expectations of stakeholders: A risk involved with this project can be inaccurate estimations of time, cost and deadlines resulting in stakeholders not being satisfied.

Since the stakeholders involved in this project for sharing requirements are one’s actually the end user so they can manipulate or twick the requirements.

**Q6 RACI Matrix :**

RACI Matrix stands for Responsible, Accountable, Consulted & Informed

**Decision-Makers:**

* Mr. Henry**:** As the sponsor, he has the final authority/ right on project approval, budget, and key decisions.
* Mr. Pandu: Responsible for budget allocation and financial approvals.
* Mr. Dooku: Coordinates project activities and ensures alignment with organizational goals

**Influencers:**

* Peter, Kevin, Ben: Their input shapes the requirements, as they represent the end-users (farmers).
* Mr. Vandanam: Manages the project and influences technical and operational decisions.
* You (BA): As the Business Analyst, you influence the requirement gathering process and ensure that user needs are accurately captured and translated into the project.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Task/Activity | Sponsor | Financial Head | Project Coordinator | Farmer stakeholders | Project Manager | Developer | Tester | N/w Admin | DB Admin | BA |  |
| Project approval | A | R | C | I | I | I | I | I | I | I |  |
| Budget Allocation | A | R | C | I | I | I | I | I | I | I |  |
| Requirement Gathering | I | I | I | C | R | I | I | I | i | A |  |
| Design | A | I | R | I | C | R | C | I | I | I |  |
| Test Cases | I | I | I | I | R | I | A | I | I | C |  |
| UAT | A | I | R | C | I | R | I | I | I | C |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

**Q7 Business Case Document**

**Problem Statement:** The three Farmers in remote areas face significant challenges in procuring fertilizers, seeds, and pesticides due to lack of access and availability. This leads to reduced agricultural productivity and economic hardships.

**Project objective:** To create an accessible, user-friendly online platform for farmers to purchase agricultural products. To improve the supply chain of agricultural products to remote areas.

**Solution/Portal Development:** Develop an online agriculture product store that will:

* Allow manufacturers to list products including fertilizers, seeds, and pesticides.
* Enable farmers to browse, select, and purchase products with ease.
* Provide a delivery system to ensure products reach farmers in remote areas.
* Offer a communication platform for farmers to directly interact with manufacturers.

**Project Scope**: Designing and develop a user-friendly web and mobile application. Integrating features for product listing, browsing, purchasing, and order tracking. Also include a payment gateway for the customers.

**Timelines & Budget:**

2 Cr Budget

18-month timeline

Under CSR initiative

**Q8 4 SDLC Methodology**

**Sequential**

Sequential is like waterfall approach where the requirements are stated earlier and the process moves step by step ad changes in the requirements can’t be compensated in later stages of the methology so if the requirement changes from the farmers so it won’t be added.

**Iterative Methology**

This methology aallows for early detection of issues by iteratively developing and testing parts of the application. And as the same suggest multiple iterations occur so each iteration refines and improves the product, accommodating changes and new requirements. But the only problem is higher the iterations higher is the refinement and this require much more time and resources for utilization and this agriculture platform has a time constraint of 18 months and a budget of 2 Cr.

**Evolutionary Methodology**

As the name suggest that evolutionary methodology allows for evolving/changing requirements, which is beneficial given the changing needs of farmers and stakeholders. It also has frequent releases help gather continuous feedback from users, ensuring the product stays aligned with their needs. Only drawback that I feel with this methodology is Continuous development and refinement can increase project costs if not carefully controlled and for this portal we have budget constraint for 2 Cr.

**Agile Methodology**

Agile methodology is the most common used now a days because of its benefits as it provides mor flexibility and advantages than the other methods. Agile’s iterative approach allows for quick adjustments based on user feedback and changing requirements and since this methodology is more frequent interactions with stakeholders ensure the product aligns closely with their needs and expectations. So I feel this approach could be more useful here as stakeholders can bring few changes to requirements at later stage of time as the project progress and we can incorporate them if use agile and also deliver small product or feature to the stakeholders in smaller sprints time frame.

**Q9** **Waterfall RUP Spiral and Scrum Models**

**Waterfall model** is a sequential SDLC model where the development of the project or product happens in a step-by-step manner and all the requirement must be well defined at the start of the project and any new requirements cannot be accommodated in later stage of life cycle of the project or product.

**RUP (Rational Unified Process)** Is a model which allows for iterative development, which can accommodate changes and new requirements over time and it also focuses more on multiple aspects like business modeling, design, and testing but only issue I feel is RUP can be complex to implement, requiring significant documentation and process management.

**Spiral model** of project or product development focuses on risk assessment and mitigation at every iteration, making it suitable for high-risk projects and allows for iterative refinement of the product based on feedback and risk analysis.

**Scrum** is a management framework that teams use to self-organize tasks and work towards a common goal. It is a framework within which people can address complex adaptive problems while the productivity and creativity of delivering products are at the highest possible value.

Whereas the V-Model (Verification and Validation Model) is a type of Sequential SDLC Model. It is an extension of the Waterfall model, where each development phase is associated with a corresponding testing phase, forming a V shape.

Now since given the nature of the project we have most of the requirements at the start itself and any new changes to be bought at later stage would be difficult to develop at later stage as both the model are sequential SDLC model so if needed to choose from only two given model **V-Model** could be a slightly better choice than Waterfall due to its emphasis on early and continuous testing, but it would still pose significant challenges in managing changes and evolving requirements.

If as a BA I am given choice to choose I will go with **Scrum framework** as this give m more flexibility in terms of adding requirements at later stage of project lifecycle secondly regular sprints can ensure that stakeholder feedback is integrated, leading to a product that truly meets user needs and hence delivering such product could build a strong foundation or image of API IT solutions.

**Q10 Waterfall vs V Model**

|  |  |
| --- | --- |
| Waterfall model have fixed sequential phases | V model have parallel testing for each part of product formed. |
| Testing occurs lately in the phases  | Testing is done from the starting phase |
| Changes can’t be incorporated at later stages of lifecycle. | Here also change can’t be added at later stages |
| Risk would be identified at later stage in testing. | Risks are identified earlier due to parallel testing. |
| Each phase delivers a fixed set of outputs before moving to the next. | Ensures that each phase meets its objectives before proceeding. |
| Stakeholder feedback is integrated late in the process | Stakeholder feedback is incorporated during testing phases at each stage. |
| Potential mismatch between final product and user needs due to lack of early feedback. | Continuous testing ensures a higher quality product |
| Costs are easier to estimate, assuming requirements don’t change. | Early testing can prevent costly fixes later in the project. |
| Testing happens only after development is completed. | Testing is broken down into smaller, manageable stages. |
| Limited visibility into the project’s progress until later stages. | Progress is more visible due to continuous testing and verification. |

**Q11 Reason for choosing one model for this project**

As a BA I would go with Agile methodology for this project as initially the requirements are clearly stated but as we will move forward in this project with time few new requirements might come out and if we go with agile methodology than we can add new requirements at later stage of the cycle. Secondly since we choose agile methodology where the stakeholder interaction is higher this will help us in building a good product and platform and we are in constant touch with the stakeholders and we build small prototype and then deliver it.

**Q12 Gantt Chart**

I have drawn this Gantt Chart into the excel and copied here

**Q13 Fixed Bid Vs Biling Project**

Fixed bid is a process where we bid a fixed price for getting the project and try to implement that project as per mentioned in the project scope and other document where as in Billing project the organization decides on no of resources that are required in a project based on their role and they charge the customer on a per day basis and they work usually for 9 hrs similar to what we currently do in IT companies where the customer is charged/billed per resource per day basis.

With time and materials, you pay an hourly rate for labor plus material costs, making the total price more flexible but also undefined. A fixed-price contract locks in the total project cost upfront as a lump sum.

The basic difference between fixed price and time and material contracts is that fixed price contracts set a defined scope of work for a preset price, whereas time and material contracts bill hourly for work with no fixed budget or end date.

Thus, the contractor assumes more risk with a fixed price contract while the client takes on more risk with time and materials where costs are harder to predict and subject to fluctuations.

**Q14 – Preparer Timesheets of a BA in various stages of SDLC**

**Design Timesheet of a BA**

Design how the solution would look like – Secondly decide on technical solution – design the technical flow i.e. how things would work in that – design how UI/UX screens would look like – Also discuss on designing of database – Than design or work on Software requirement specification document which is also called as the design report – Post this we can engage stakeholders and then take a sign off from them on our SRS.

**Development Timesheet of a BA**

Identify or decide on which technology would be used in coding the front end project after having a word with the technical team – after identifying this clarify any doubts of the teams if any – Decide on languages which would be used for developing the backend Java/.net etc. – also work with technical team to share information on database integration with the front end - once all the things are finalized we can mention that to the stakeholders and take their signoff for their approvals.

**Testing Timesheet of a BA**

As a BA your role in the testing phase would be to identify the test plan – identify the test cases and test results – Than study the results for System integration testing – similar to studying results for SIT the BA also needs to study the results for UAT and then present that to relevant stakeholder and then take a sign off on all the results that with current results stakeholders are satisfied.

**Deployment n Implementation Timesheet of a BA**

In the Implementation phase the role of BA is to develop an implementation plan where he needs to identify who is responsible for implementing secondly also decide on who is responsible for deployment and validate the overall code – Once its is deployed the BA needs to see if the deployment is successfully executed and then take a sign off from relevant stakeholders.

**UAT Timesheet of a BA**

In the UAT phase the Business analyst role is to prepare a UAT plan – identify the resources who would be giving/supporting the user during there testing phase and also decide on which team is responsible for making sure that the user understand the whole life cycle and working of the project as they are the end user – once the User is satisfied from all the testing – the BA is responsible for taking the signoff from the user for the UAT.