Answers

Question 1) Identify Business Process Model for Online Agriculture Store – (Goal, Inputs, Resources, Outputs, Activities, Value created to the end Customer.

Answer –

Goal – To develop an User friendly Online Agriculture Products Store.

Inputs – Target Users, Product Categories, Farmer Needs, Manufacturer Categories.

Resources – Software, Market Research, Human Resources, Office Space.

Outputs – Farmers Satisfaction, Improved Supply Chain, Revenue Generation, Digital Literacy Increase.

Activities – Customer Support for farmers, Roll out marketing campaigns to onboard farmers & Companies.

Value Created to the end customer – Access to wide range products, direct communication, Digital transformation.

Question 2) Mr. Karthik is doing SWOT Analysis before he accepts this Project. What aspects he should consider as Strengths, Weakness, Opportunities & as Threats.

Answer -

 **Strengths Weakness**

Wide range of farming products at finger tips. Supply Chain Disruptions.

Timely access of the latest and quality products. Inventory Management.

 **Opportunities Threats**

Expansion of products in public markets. Market Competition, Natural Disasters,

Adoption of Technology in Agriculture. Seasonal Variations, Economic Downturns.

Question 3) Mr. Karthik is trying to Feasibility Study on doing this project in Technology (Java), Please help him with points (SW, HW, Trained Resources, Budget & Time Frame) to consider in feasibility study.

Answer –

**Hardware** - Based on Storage Servers (AWS, Azure, GCP),

Backup Systems for recovery,

Network Infrastructure for high speed internet. (20 Lakhs).

**Software** – Java Frameworks & Tools like Springboot, Angular & React JS,

**Database**- MySQL, MongoDB, Payment gateways – Phonepe, Paytm etc.

Version Control Systems like Git, GitHub. (40 Lakhs)

**Resources** – 80 Lakh

Mr. Vandanam (Project Manager) (18 Lakhs)

Ms. Sirisha (BA) (13.5 Lakhs)

Development Team – (2 Lakhs)

Question 4) Mr. Karthik must submit Gap Analysis to Mr. Henry to convince to initiate this Project. What points (compare AS-IS existing process with TO-BE future Process) to show case the GAP Analysis.

Answer –

Current state: 1) Limited to no access to quality agricultural products such as Seeds, Fertilizers & Pesticides.

2) Limited awareness of Online Platforms.

3) No direct communication between the Farmers and Manufacturers of these farming products.

Desired State: 1) Direct access to high quality agricultural products delivered to home.

2) Enhanced community development through farmer empowerment.

3) Direct communication b/w the farmers and the Manufacturers in buying and selling the products.

Question 5) List down different Risk factors that may be involved (BA Risks/Process & Project Risks).

Answer – Process based Risks could be Internal & External.

Internal Risks:

 1) App downtime or failure may affect the user experience.

 2) High Operating expenses due to investments in Technology & Marketing.

 3) Depending on external vendors for product supply and inventory management.

External Risks:

1) Other competitors with the same products in market.

 2) Changes in the Government Policies may affect the Operations.

 3) Unpredictable Weather and natural disasters may affect the production and supply.

BA Risks:

1. Domain Knowledge may be a concern.
2. Changes in requirements at times may be challenging.
3. Any miscommunications between the stake holders.

Project Based Risks:

1. Scope Risks like unclear Project Scope.
2. Lack of sufficient skilled resources leading to delays in project execution.
3. Sustainability may gradually decrease after the CSR funding ends.

Question 6) Perform Stakeholder analysis (RACI Matrix) to find out the key stakeholders who can take decisions and who are the influencers.

Answer -

|  |  |  |  |
| --- | --- | --- | --- |
|  **RACI** |  **Name** |  **Designation** |  **Details** |
|  | Mr. Karthik | Delivery Head | karthik@aptitsolutions.com Phn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Mr. Vandanam | Project Manager | vandanam.pm@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
| **Responsible** | Ms. Juhi | Sr.Java Developer | juhi.dev@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Teyson | Java Developer | teyson@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Lucie | Java Developer | lucie.dev@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Tucker | Java Developer | tucker@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Bravo | Java Developer | bravo.dev@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
| **Accountable** | Mr. Henry | Project Sponsor | henry@soony.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Sirisha | BA | ba@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Mr. Vandanam | Project Manager | vandanam.pm@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Mr. Pandu | Financial Head | pandu@soony.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Mr. Dooku | Proj. Co-ordinator | dooku@soony.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
| **Consulted** | Mr. Pandu | Financial Head | pandu@soony.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Mr. Dooku | Proj. Co-ordinator | dooku@soony.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
| **Informed** | Peter | Stake Holders | peter@farmers.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Kevin | Stake Holders | kevin@farmers.com Phn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Ben | Stake Holders | ben@farmers.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Jason | Testers | jason@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Alekhya | Testers | alekhya@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | Mike | Network Admin | mike@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |
|  | John | Database Admin | john.dba@aptitsolutions.comPhn no. 123 456 789Reach out: 10 AM to 1 PM IST |

Question 7) Help Mr. Karthik to prepare a Business Case Document.

1. Why is the Project Initiated?
2. To Enable the Farmers in remote areas to procure essential agriculture products like Fertilizers, Seeds and Pesticides through a user friendly online mobile app.
3. What are the current problems?
4. Farmers in remote areas face challenges in accessing quality Agricultural products & also Manufacturers struggle to reach rural markets to sell their products.
5. With this Project How many problems can be solved?
6. 1) Limited or no access to agricultural products.

2) Lack of Product information

3) Low digital Literacy hence can help farmers develop digital skills.

4) Market reach for Manufacturers.

5) Connecting farmers directly to the Manufacturers the Project eliminates middle men hence reduced costs.

 4) What are the resources required?

 A) The resources required are 12 as below

**Project Leadership:**

Mr. Karthik (Delivery Head)

Mr. Vandanam (Prpject Manager)

**Development Team:**

Ms. Juhi (Senior Java Developer)

Mr. Teyson (Java Developer)

Ms. Lucie (Java Developer)

Mr. Tucker (Java Developer)

Mr. Bravo (Java Developer)

Database and Network Admin:

Mr. Mike (Network Administrator)

Mr. John (Database Administrator)

**Testing Team:**

Mr. Jason (Tester)

Ms. Alekhya (Tester)

Ms. Sirisha (Business Analyst)

5) How much organizational change is required to adopt to this technology?

A) Approximately 50 to 60% of organizational change is required to adopt to this technology considering the need for process re-engineering, training and cultural adaptation.

6) What is the Time frame to recover ROI ?

A) The Time frame to recover ROI on this Project is One year.

7) How to identify Stakeholders?

A) We can identify the Stakeholders by preparing a RACI Matrix.

Question 8) Write about SDLC Methodologies.

Answer – There are 4 types of SDLC Methodologies.

1. Sequential – Waterfall
* This is a traditional model.
* Each phase has specific deliverables.
* End of each phase review takes place to determine if the project is running fine.
* This works well for smaller projects.
1. Iterative – RUP (Rational Unified Process)
* Best Suitable for long term Projects.
* In this methodology Phase/Module wise application is developed.
* Change request is welcomed in every phase of the Project.
* Its called heavy weight process model.
* It has multiple stages which requires more resources and budget.
1. Evolutionary – Spiral
* The Spiral model is a risk driven process model generator for software Projects.
* It has 4 Phases Planning, Risk Analysis, Engineering & Evaluation.
* A Software Project passes through these phases in Iterations called Spirals.
1. Agile – Scrum
* Agile is an incremental and iterative approach to Software development that emphasizes flexibility, Colloboration & Customer Feedback.
* It breaks the development process into small manageable units called Sprints.
* Highly Flexible and adaptable to changes.
* Delivers working software early and often.

Question 9) As a BA which Methodology do you think would be better for this Project?

Answer – As a BA I would choose Waterfall as this is a small Project. Every process is reviewed well. It emphasizes on delivering a complete & high quality product.

Question 10) Write down the differences between Waterfall and V Model.

Answer -

|  |  |
| --- | --- |
| Waterfall | V-Model |
| Low cost | Expensive |
| Testing activities start at the later stages  | Testing activities start with the first stages |
| Move in Linear way  | Don’t move in a Linear way |
| Less customer involvement | More customer involvement |

 Question 11) As a BA, state your reason for choosing one Model for this Project.

Answer – Since this is a small Project of duration 18 months I would choose Waterfall as every phase of the Project can be reviewed really well.

Question 12) Gantt Chart for the Project.

Answer –

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Week 1** | **Week 10**  | **Week 20**  | **Week 29** | **Week 38** | **Week 46** | **Week 55** | **Week 65** | **Week 75** | **Week 80** |
| Requirements Gathering |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Requirement Analysis |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  | Design |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Coding |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  Testing |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resources** | **Week 1** | **Week 10** | **Week 20** | **Week 29** | **Week 38** | **Week 46** | **Week 55** | **Week 65** | **Week 73** | **Week 78** |
| Project Manager  | 1 |
|  |  |  |  |  |  |  |  |  |  |  |
| Business Analayst | 3 |
|  |  |  |  |  |  |  |  |  |  |  |
| Java Developer |  |  | 5 |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Operations/Support Head |  | 1 |
|  |  |  |  |  |  |  |  |  |  |  |
| Testers |  |  |  |  |  | 2 |
|  |  |  |  |  |  |  |  |  |  |  |
| Network Engineer | 1 |

Question 13) Explain the difference between Fixed Bid and Billing Projects.

Answer –

|  |  |
| --- | --- |
| **Fixed Bill Projects** | **Billing Projects** |
| A Project where the total cost is agreed upon upfront regardless of actual effort or time spent. | A Project where the cost is based on the actual time and resources used.  |
| The budget and time will be fixed here. | Resources working in the Project will be billed to the Client on Hourly basis.  |
| The Scope here is predefined. | The Scope of the work can be adjusted as needed throughout the Project. |
| There is a higher risk for the Vendor as they must absorb any cost overruns. | Higher risk for the Client as the final cost depends on the actual efforts. |
| Payments are lumpsum.  | Payments are periodic (hourly/daily0r monthly) |
| Changes often require renegotiation. | Scope can evolve during the project life cycle. |
| Predictable costs for the Client. Clear deliverables and timelines. | Flexibility to adapt to Changing requirements. Pay only for actual work done. |

Question 14) Prepare Timesheets of BA in various stages of SDLC.

Answer –

**1.**

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| **Design Time Sheet** |
| **S. No** | **Tasks** | **Actionable Items**  | **Start time** | **End time**  | **Duration** |
| 1 | Requirement Gathering | Conduct Stakeholder Interviews | 10:00 AM | 11:00 AM | 1 hour |
| 2 | Requirement Analysis | Analyze & refine requirements | 11:00 AM | 01:00 PM | 2 hours |
| 3 | Workflow Design  | Create Process flow diagrams | 2:00 PM | 03:00 PM | 1 hour |
| 4 | Document Preparation | Draft BRD & FSD Documents | 3:30 PM | 5:00 PM | 1.5 hours |
| 5 | Review & Feedback | Review design documents with SME’s | 4:30 PM | 07:00 PM | 2.5 hours |
|  |  |  |  |  | 8 hours |

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| **Development Time Sheet** |
| **S. No** | **Tasks** | **Actionable Items**  | **Start time** | **End time**  | **Duration** |
| 1 | Development Support  | Clarify requirements to developers | 9:00 AM  | 10:30 AM | 1.5 hour |
| 2 | Feature Validation | Review developed features | 10:30 AM | 12:30 PM | 2 hours |
| 3 | Change Request Handling | Document and prioritize CR’s | 12:30 PM | 01:30 PM | 1 hour |
| 4 | Development Meetings | Attend Sprint Planning Meetings | 01:30 PM | 2:30 PM | 1 hour |
| 5 | User Story Refinement | Update User story for Clarity. | 2:30 PM | 5:00 PM | 2.5 hours |
|  |  |  |  |  | 7.5 hours |

**3.**

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| **Testing Time Sheet** |
| **S. No** | **Tasks** | **Actionable Items**  | **Start time** | **End time**  | **Duration** |
| 1 | Test Case Review | Validate test cases with testers. | 10:00 AM | 11:00 AM | 1 hour |
| 2 | Funtional Testing | Verify system functionality | 11:00 AM | 01:00 PM | 2 hours |
| 3 | Defect Analysis | Analyze & document defects | 2:00 PM | 03:00 PM | 1 hour |
| 4 | Testing Meetings | Discuss Testing Progress with QA | 3:30 PM | 4:30 PM | 1 hour |
| 5 | Feedback Documentation | Record Feedback for improvements. | 4:30 PM | 07:00 PM | 2.5 hours |
|  |  |  |  |  | 7.5 hours |

**4.**

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| **UAT Time Sheet** |
| **S. No** | **Tasks** | **Actionable Items**  | **Start time** | **End time**  | **Duration** |
| 1 | UAT Planning | Prepare UAT schedule & scenarios. | 10:00 AM | 11:00 AM | 1 hour |
| 2 | UAT Support | Assist users during UAT execution | 11:00 AM | 01:00 PM | 2 hours |
| 3 | Defect Documentation | Record and analyze UAT issues | 2:00 PM | 03:00 PM | 1 hour |
| 4 | UAT Feedback analysis. | Document UAT feedback. | 3:30 PM | 4:30 PM | 1 hour |
| 5 | UAT Reporting  | Prepare UAT summary reports. | 4:30 PM | 07:00 PM | 2.5 hours |
|  |  |  |  |  | 7.5 hours |

**5.**

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| **Deployment & Implementation Time Sheet** |
| **S. No** | **Tasks** | **Actionable Items**  | **Start time** | **End time**  | **Duration** |
| 1 | Deployment Readiness | Verify deployment checklist.  | 10:00 AM | 11:00 AM | 1 hour |
| 2 | Go-Live Support | Monitor and support go-live. | 11:00 AM | 01:00 PM | 2 hours |
| 3 | Training Documentation | Prepare user training materials. | 2:00 PM | 03:00 PM | 1 hour |
| 4 | Post implementation Review | Document lessons learned. | 3:30 PM | 4:30 PM | 1 hour |
| 5 | Support Handover  | Coordinate knowledge Transfer. | 4:30 PM | 07:00 PM | 2.5 hours |
|  |  |  |  |  | 7.5 hours |