Question no 1

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

Answer

GOAL: To bridge the gap between the farmer and their agricultural needs using a platform

INPUTS: Here farmer is the customer so Customer data , Marketing campaigns, and to trained employee as per the requirements
RESOURCES: warehouses to store the seeds, pesticides ,fertilizers and other inventory , need office space for employee and importantly the software which will serve as platform for all

OUTPUT: Meeting requirements for better farming, sales revenue and efficiency

ACTIVITIES: Excellent service to farmer to meet their needs , leading partnership with manufacturer company which provides the required product

VALUE: Provide wide range of products and customer satisfaction to increase their farm production

QUESTION 2

SWOT Analysis

Mr Karthik is doing SWOT analysis before he accepts this project. What Aspects he Should consider as Strengths, as Weaknesses, as Opportunity and as Threats.

ANSWER

Mr Karthik will go through the proposed project and analyze the STRENGTH WEAKNESS OPPURTUNITIES AND THREAT for the same

STRENGTH

-Strong platform for farming products.

-Good knowledge of farming product through circle hence creating a good reputation.

-Ability to reach customers beyond local markets including rural and local markets

WEAKNESS

-Dependence on external product supplier.

-Big supply chain management and its distuptions.

-inventory management issues.

-high competition from other e-commerce platforms and local supplier.

OPPURTUNITIES

-Inclusion and expansion of all farming products in one platform

-Getting all new farming products in one platform.

-oppurtunities to partner with local farmers and suppliers

THREATS

-Changing in Ecommerce and agricultural regulations

-Risk of cyber attacks

-Risk of market saturation with too many competitors

QUESTION N0 3 Feasibility study

Mr Karthik is trying to do feasibility study on doing this project in Technology (Java), Please help him

with points (HW SW Trained Resources Budget Time frame) to consider in feasibility Study.

ANSWER

While going through the proposed project Mr Karthik will check the feasibility study and will draw a specific conclusions

Hardware feasibility

-High performing servers to host the traffic In the website.

-Sufficient storage for product images farming data and transactions records.

-Backup system to backup data and disaster recovery.

Software Feasibility

-Ecommerce robust platform .

-Database management system to manage product and customer data.

-Payment gateway integration like Razorpay Paypal etc.

-Customer Relationship Management

BUDGET feasibility

-Set up cost

-operational cost

-Marketing cost

Timeframe feasibility

-Timeframe need to set according to the features of the website like how much time frame required for planning phase example 1-2 months.

-Timeframe for development phase, Launch phase.

QUESTION NO 4GAP ANALYSIS

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 showcase in the GAP Analysis )

ANSWER

AS IS Existing process

-Farmers and supplier deliver product to a physical location inventory is managed manually .

-products are store in physical store.

-customers physically collect the products from store or no store available for the required products.

-orders are taken manually and all payments done in cash.

TO-BE Future Process.

-Products are source from various suppliers and farmers through online platform.

-inventory is managed using inventory management system.

-products are sold through ecommerce website and mobile app.

-orders are processed online with automated order management systems.

-products are delivered to customers doorsteps through logistics network.

Question 5 – Risk Analysis .

List down different risk factors that may be involved (BA Risks And process/Project Risks) a

ANSWER

The risk factors which need to consider for the project lets elaborate the diff risk

BA risk which is business analyst risk where we can consider

-If there is incomplete requirements then there will be prob for project scope.

-If the BA lack the domain knowledge which lead to misalignment with market needs and ineffective reuirement gathering

-which leads scope creep.

PROJECT RISK/PROCESS

Process risk could be internal or external

Internal risk

Dependence on external vendors for product supply and distribution chain.high operating expenses due to investment in technology

External risk

Could be intense competition from other giants in market

Changes in govt rules and regulation in ecommerce market.

PROJECT RISK

-there could be scalability issues to handle the heavy traffic during peak times

-there could be scope creep due to poor requirement considerations and stakeholder demands

Question 6 – Stakeholder Analysis (RACI Matrix)

Perform stakeholder analysis (RACI Matrix) to find out the key stakeholders who can take decisions and who are the influencers

ANSWER

RACI matrix is a software development tool for clarifying the roles and responsibilities of the different project members where RACI stand for Responsible Accountable Consulted Informed

In Responsible these are the team members who actually execute the task and activity

In accountable this persons are ultimately answerable for the completion of task they ensure that it gets end and meet the necessary standard

In consulted these are the experts who are consulted for their specialize input. Their opinion are sought and their recommendations are considered.

In Informed these persons who are kept in loop and are updated on progress

In this project we can consider some of the project member for the above role and add new role to explain the following matrix



Question 7 – Business Case Document

Help Mr Karthik to prepare a business case document

ANSWER

A Business Case Document in software development is a formal, structured document that outlines the justification for starting the project.

Mr Kartik will grow through reasons for initiating the project the current state and problems of the project and same for the future state of the project he will also look upon the resources required to build the software ,the time frame for the software, the organizational change and methods to identify the stakeholders he will closely look all the above in the following ways

1. Why is the project iniated?

The agricultural structure is the cornerstone of our economy and there is the groeing demand in innovative solutions to support farmers despite of advancement of technology farmers face many problems in accessing farming tools resources and product so this project bridge the gap between the farmers and their farming needs

1. What are the current problems?

Lack of farming products at one rooftop in a digital access , efficiently transporting to and from rural areas can be challenging which is high transport cost, trust and reliability issues in farmers for online platforms, no support from government either, lack of inadequate storage

facilities for farming goods, rising up the cost of farming products and needs.

3)With this project how many problems could be solved?

 By providing user friendly interfaces and mobile app support the platform help to meet the digital gap where farmers can us ethe platform effectively, by implementing secure payments methods, transparent product reveiews and robust customer service trust and reliability eill be build, collaborating with local farmers foe storage and distribution centers help improve infrastructure.

1. What are the resources required?

To develop ecommerce platform for farming products company will need a variety of resources

Human resources are project manager, Business Analysis, Software developers,QA team, Marketing team.

Technical Resources are Development tools, cloud services,databases, payment gateways.

1. How much organizational change is required to adopt this technology?

Adopting the e-commerce platform for farming products will require significant organizational change, including digital literacy training, infrastructure improvements and streamline processes to effectively integrate and utilize new technology

1. What is the time frame to recover ROI?

Here are some considerations to calculate timeframe for ROI like market demand, marketing strategy, operational efficiency, competition etc to calculate ROI we have a formula like

ROI=NETPROFIT/TOTAL INVESTMENT\*100

1. How to identify Stakeholders?

As a BA first of all go through the project documents like project requirements project scope etc and with the help of that we need to identify the stakeholders through brainstorming sessions research and by doing stakeholder analysis.

Question 8 – Four SDLC Methodologies.

ANSWER

There is basically four SDLC Methodologies

-Sequential which is waterfall

-Iterative-RUP

-Evolutionary-SPIRAL

-AGILE-Scrum

Lets elaborate each

SEQUENTIAL

It is a linear and sequential approach

Phases include requirement analysis,system design,implementation,testing,deployment and maintainence

Each phase must be completed before the next begins.

ITERATIVE -RUP

The rational unified process is an iterative SDLC methodology. RUP Is designed to be adaptable and scalable to different project size and complexities.key aspects of RUP is inception, elaboration,construction and transition.

EVOLUTIONARY SPIRAL

The evolutionary SDLC methodology is a risk driven process model that combine iterative development with the aspects of waterfall model.

The development cycle is divided into series of iterative cycles each of which include planning ,risk analysis, engineering and evaluation. Each cycle produce a prototype or increment of the software allowing continuos refinement.

AGILE SCRUM

This is one of the most popular frameworks within the agile approach .it emphasizes flexibility,collaboration ,iterative process,faster delivery of value,greater transparency and visibility etc

Key aspects of agile scrum.

Sprints

The development process is divided into fixed length iterations called sprints, typically lasting 2-4weeks. Sprints provide a regular interval for delivering new features and improvement.

Different ROLES in Agile scrum

Product owner ,scrum master, Business analyst,development team, testing team etc.

It has artifacts

Product backlog

Sprint backlog’

Increment.

There are different events in agile

Sprint planning.

Daily stand up meeting.

Sprint review.

Sprint retrospective.

Question 9 – Waterfall RUP Spiral and Scrum Models – 8 Marks

Waterfall model

The waterfall model is a linear and sequential approach to software development .it’s often regarded as the traditional method.

Phases : the process progresses through well defined phases ehich are requirements, design , implementation, verification testing and maintainence

Characterictics : each phase must be completed before moving to next

Advantages : straightforward suitable for small projects

Disadvantages: rigid, lacks flexibility to accommodate changes after phase complete

2. Rational unified process (RUP)

RUP is a framework that combines iterative development with documentation and use case driven design

Phases: inception , elaboration, construction, transition

Characterictics : customizable for different project types focuses on risk mitigation

Advantages: adaptable supports iterative progress while maintaining structure

Disadvantages : can be resource intensive doe to its comprehensive nature.

3.spiral model

The spiral model is a risk driven and combines iterative development with aspects of the waterfall model

Phases: repeated cycles each having four stages planning, risk analysis, engineering, evaluation

Characteristics: suitable for large comples projects with high risks

Advantages: flexibility to adapt to changes ,continuous stakeholder involvement

Disadvantages: can be expensive and complex to manage

4.scrum model

Scrum is an agile framework focused on delivering value iteratively and incrementally through collaboration.

Phases: work is divided into SPRINTS short time boxed iterations usually lasting for 2-4 weeks

There are different roles

SCRUM MASTERS: Facilitates the process and resolves roadlocks

PRODUCT OWNER: Prioritizes the product backlog

DEVELOPMENT TEAM: Builds the product

Characteristics: adaptive allows for constant feedback and quick adjaustments

Disadvantages: relies on teams dynamics.

As Per my knowledge and understanding the project is well-defined requirements and a clear scope from the beginning and it is a 18 month project and a fixed budget project which come in the category of small project so waterfall model might suite well . The linear approach ensures that each phase is completed before moving to the next which help in managing cost and timeline effectively.

Question 10 – Waterfall Vs V-Model - 5 Marks

|  |  |
| --- | --- |
| **Waterfall model** | **V MODEL** |
| It is a low cost project model | It is suited to high cost project |
| Testing activities start at later stage | Testing activity starts with the first stage |
| Move in a linear way | It does not move in linear way |
| Less customer involvement | More customer involvement |
| Verification and validation is emphasize are conducted at a time without corresponding the testing activities | The V model emphasizes validation and verification at each stage . |

Question 11 – Justify your choice - 3 Marks

Answer

As Per my knowledge and understanding the project is well-defined requirements and a clear scope from the beginning and it is a 18 month project and a fixed budget project which come in the category of small project so waterfall model might suite well . The linear approach ensures that each phase is completed before moving to the next which help in managing cost and timeline effectively.

Question 12 – Gantt Chart - 5 Marks

the Committee of Mr. Henry, Mr Pandu, and Mr Dooku discussed with Mr Karthik and finalised on the V Model approach (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) Mr Vandanam is mapped as a PM to this project. He studies this Project and Prepares a Gantt chart with V Model (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) as development process and the Resources are PM, BA, Java Developers, testers, DB Admin, NW Admin.



Question 13 – Fixed Bid Vs Billing - 5 Marks

Explain the difference between Fixed Bid and Billing projects

|  |  |
| --- | --- |
| Fixed Bid project  | Billing project |
| A fixed total price is agreed upon for the entire project based on the scope of work | The client is billed based on the actual time and resources spent. |
| Scope of the project defined clearly at the beginning. | Scope of the project is flexible allows for ongoing adjustments or iterations during the project. |
| The service provider bears the financial risk if the project takes more time or resources than anticipated | The client assumes more risk since cost can increase if the projects takes longer than expected |
| Best for projects with well defined requirements and minimal likelihood of changes | Suitable for projects with evolving requirements or where frequent iterations are expected |
|  |  |

Question 14 – Preparer Timesheets of a BA in various stages of SDLC - 20 marks

Design Timesheet of a BA ➢ Development Timesheet of a BA ➢ Testing Timesheet of a BA ➢ UAT Timesheet of a BA ➢ Deployment n Implementation Timesheet of a BA

Design Timesheet for BA

A Business analyst BA timesheet for the design phase typically captures their activities aimed at ensuring the solution design align with business requirements. Generally design phase starts after requirement analysis with the help of different tools.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr no | Task /activity | description | Time spent | notes |
| 1 | Requirement refinement | Reviewing and refining business requirements based on stakeholder feedback | 10 a.m to 11 a.m 1 hr | Ensure all team members clearly understand the requirements to avoid rework later. |
| 2 | Utilizations of different tools | Working with UX/UI designers to create wireframes, prototypes and mockups. | 11 a.m to 1 p.m2 hrs | Key input on features and documents related to all design and their path. |
| 3 | Design validation | Reviewing proposed designs to ensure alignment with the refined requirement. | 2 p.m to 3 p.m1 hrs | Different design path and documents for easy go through.1 |
| 4 | Stakeholder interaction | Conducting design walkthroughs and gathering additional feedback | 3.30 p.m to 4.30 p.m1 hrs | Confirm that all stakeholders understand the design decisions and agree . |
| 5 | Team meeting | Updates on assigned task | 4.30p.m to 5.30 p.m1 hrs | MOM update |
| 6 | Wrap up and planning for next day | Reviewing the day’s activities . | 5.30 p.m to 6 p.m1 hrs | Next day activity plan |

Development timesheet of BA

The development stage timesheet typically outlines the task and responsibilities they undertake during the development phase of the project.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr no | Task /activity | description | Time spent | notes |
| 1 | Requirements | Details of client need | 10 a.m to 11 a.m1 hrs | Details record of client needs |
| 2 | Feasibility analysis | Here we can totally see the feasibility outcomes and how it will go with the further development | 11 a.m to 12 a.m | Focuses on compatibility, financial feasibility, operational feasibility and risk analysis |
| 3 | Stakeholder consultant | Mediate and resolve any conflicts or differing viewpoints among stakeholders | 12 p.m to 1 p.m | Key decisions and feedback |
| 4 | Functional specification | Here BA will ensures the system functionality such as business processes ,user stories, and system input/output. | 2 p.m to 3 p.m | Ensure all specifications are logged systematically. |
| 5 | Validation /testing | Develop test cases and scripts aligned with functional requirements | 3 p.m to 4 p.m | Ensure test result align with expected outcomes. |
| 6 | Final deliverables | This includes final BRD FRS and other relevant reports | 4 p.m to 5 p.m | Ensure all stakeholders approve the final deliverables before moving forward. |

Testing timesheet for BA

Testing timesheet tracks various testing related activities durations and notes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr no | Task /activity | description | Time spent | notes |
| 1 | Test case creation. | Created test cases based on requirements . | 10 a.m to 11 a.m1 hrs | Document test case |
| 2 | Test case reviews. | Reviewed and refinened test cases. | 11 a.m to 12 a.m1 hrs | Document test case reviews |
| 3 | Test Execution. | Conducted system module testing. | 12 p.m to 1 p.m1 hrs | Key points for notes during test execution |
| 4 | Defects documentation. | Logged defects through tools. | 2 p.m to 3 p.m1 hrs | Defect details list the severity and priority |
| 5 | Test report preparation. | Facilitate documentation. | 3 p.m to 4 p.m1 hrs | Mention the testing environment setup QA UAT. |
| 6 | UAT | Facilitate documentation for UAT. | 4 p.m to 5 p.m 1 hrs | UAT testing document.s |

UAT Timesheet for BA

This structure provides a clear and detailed view of UAT activities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr no | Task /activity | description | Time spent | notes |
| 1 | Preparation for UAT | Identifying UAT testers preparing test scripts and reviewing them with stakeholders | 10 a.m to 12 a.m2 hrs | Keep notes for test script |
| 2 | Execution phase | Assigning test cases to testersMonitoring progress | 11 a.m to 1 p.m2 hrs | Ensuring testers have access to defect management tools |
| 3 | Post UAT Phase  | Analyzing test result | 3 p.m to 5 p.m 2 hrs | Conducting meeting on deployment readyness |

Deployment timesheet for BA

A deployment timesheet for a business analyst (BA) typically track tasks and time spent during the development phase of a project

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SR NO  | Task /activity | description | Time spent | notes |
| 1 | Preparing deployment plans | Co ordinating with stakeholders. Conducting pre deployment checks. | 10 a.m to 12 a.m2 hrs | Notes for deployment progress |
| 2 | Time tracking  | Hours spent on each task | 12 p.m to 2 p.m | Notes on time allocated |
| 3 | Status updates | Task completion status | 3p.m to 5 p.m | Notes on challenges or delays |

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