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

Ans:

Below is the Business Process Model for Online Agriculture Store:

Goal: To reach maximum customers at the right time to increase the sales and profitability of Agricultural products.

Inputs: Developers, Raw materials, Delivery boys to deliver products, product specifications, Images, brands, and prices, Checkout page, shopping cart, payment options, and delivery details.

Resources: Internet, mobile/laptop, farmers, agricultural products, marketing team, testing team, development team, funds, manpower.

Outputs: An online platform for farmers and companies to increase connectivity with each other and increase efficiency.

Activities:

Acceptance of Product details, Display on the website to farmers, raise purchase requests, payment process, and delivery of products to farmers. Search section to find specific models/ brands/ items. Then the product selection is added to the cart and checkout. Payment by the buyer. Once a payment is done, then payment confirmation is sent via email/text/WhatsApp. If the product is not up to the mark/ no longer needed, then return or exchange of the item. Reverse payment to the original payment mode/ wallet.

Value created to the end customer:

Remote area farmers can easily get agricultural products & can communicate directly with product manufacturers/sellers/dealers, etc. It will be convenient for customers to buy online, and they can save time and travel costs.

Question 2 :

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:

Strength: Farmers can connect with companies from remote areas and save time.

Product availability will be more on the same platform, as multiple companies will be present.

Weakness: Multiple competitors may be involved in a similar business. Existing competitors will be a problem.

Opportunity: The app will open ways for more sales of farming products. Not just remote farmers, anyone can order from the store 24\*7. This will help buyers to have good sales and encourage adding better products. They can also put ads for new product launches/offers/discounts. It will be

convenient for customers to buy online, and they can save time and travel costs.

Threats: Different factors can be threats to the business. Some examples are below.

•Delivery to remote areas.

•Recruiting delivery persons who are willing to travel and deliver.

•Not all farmers will be tech-savvy, so some might not be able to use the app.

•Ordering from remote areas could be challenging because of external factors such as

electricity, internet, etc.

3. 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.

Ans: A feasibility study is a preliminary assessment to determine if a project or idea is practical and achievable.

Technology: Oracle DB, PayPal, Bill Desk, security, APIs

Hardware: AWS/Azure

Software: Java, word press, magneto

Resources: PM(1), Sr-Dev(1), Dev(4), NWadmin(1), DB Admin(1), Tester (2), BA(1).

Time Frame:

Requirements Gathering: 2 Months

Designing: 2 Months

Development: 8 Months

Testing: 3 months

Deployment: 1 month

Training: 2-3 weeks

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 showcase in the GAP Analysis

AS-IS Process (Existing Process):

•Farmers travel to physical stores.

•Limited product availability and higher costs.

•Time-consuming procurement process.

TO-BE Process (Future Process):

•Online browsing and purchasing of products.

•Wide product availability at competitive prices.

•Efficient and timely delivery.

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

Risk analysis for software projects involves identifying potential risks that could impact the project's success and developing strategies to mitigate (Mitigation in software development refers to the strategies and actions taken to minimize or alleviate risks and potential negative impacts associated with various aspects of the software development process.) or manage those risks.

Here are some key points:

Identification: Begin by identifying potential risks, including technical, operational, schedule, and resource-related risks.

Assessment: Evaluate the probability and impact of each identified risk. Consider the likelihood of occurrence and the potential consequences on project objectives.

Prioritization: Prioritize risks based on their severity and likelihood. Focus on addressing high-priority risks that could significantly impact the project's success.

Mitigation Strategies: Develop mitigation strategies for high-priority risks. These strategies may involve proactive measures to reduce the likelihood of occurrence or minimize the impact if the risk materializes.

Contingency Planning: Develop contingency plans for risks that cannot be fully mitigated. These plans outline how the project will respond if a risk event occurs, ensuring that the project can continue with minimal disruption.

Monitoring and Review: Continuously monitor the project environment for new risks and changes in existing risks. Regularly review and update the risk management plan to ensure its effectiveness throughout the project lifecycle.

Issue: An issue is a problem or challenge that has already occurred and is currently impacting the project or organization. It represents an obstacle that needs to be addressed to keep the project on track.

Risk: A risk is a potential event or circumstance that may occur in the future and could have a negative impact on the project or organization if it materializes. Risks are uncertain events that may or may not happen.

Internal Risks:

1. Technical Risks:

•System Reliability: There might be technical glitches or server downtime that could

affect the reliability of the online store, impacting user experience and causing loss

of sales.

•Data Security: Since financial transactions are involved, there's a risk of data

breaches leading to theft of sensitive information such as payment details or personal data of users.

•Scalability: If the application isn't designed to handle a large number of users or a

high volume of transactions, it may become slow or crash during peak times, resulting in customer dissatisfaction.

2. Operational Risks:

•Inventory Management: Mismanagement of inventory could lead to stockouts or

overstocking, impacting the availability of products for farmers.

•Order Fulfilment: Errors in order processing or delays in delivery could result in dissatisfaction among customers and damage the reputation of the online store.

•User Training: If the application is not user-friendly or if farmers are not adequately

trained to use it, adoption rates may be low, affecting the success of the project.

3. Organizational Risks:

•Dependency on Key Individuals: If key individuals such as Mr. Henry, Mr. Pandu, or

Mr. Dooku are unavailable or leave the project, it could disrupt decision-making and

project progress.

•Budget Management: Exceeding the allocated budget could lead to financial constraints and compromise the quality or scope of the project.

•Communication Issues: Poor communication between the stakeholders and the

development team could result in misunderstandings, delays, or misaligned expectations.

External Risks:

1. Market Risks:

•Competitive Landscape: Competing online stores or traditional suppliers may offer

similar products or better prices, posing a threat to the success of the project.

•Regulatory Compliance: Changes in regulations related to e-commerce or

agricultural products could require modifications to the application, leading to

additional costs or delays.

2. Supplier Risks:

•Supplier Reliability: Dependence on third-party suppliers for seeds, pesticides, and

fertilizers carry the risk of supply chain disruptions, quality issues, or price fluctuations.

•Product Authenticity: There's a risk of counterfeit or substandard products being

supplied by manufacturers, which could damage the reputation of the online store

and harm farmers.

3. Technological Risks:

•Internet Connectivity: Poor internet connectivity in rural areas, where many farmers

might reside, could hinder access to the online store and limit its reach.

•Cybersecurity Threats: The online store is vulnerable to cyberattacks such as DDoS attacks, malware infections, or phishing attempts, which could compromise sensitive data or disrupt operations.

•Product Authenticity: There's a risk of counterfeit or substandard products being

supplied by manufacturers, which could damage the reputation of the online store

and harm farmers.

3. Technological Risks:

•Internet Connectivity: Poor internet connectivity in rural areas, where many farmers

might reside, could hinder access to the online store and limit its reach.

•Cybersecurity Threats: The online store is vulnerable to

cyberattacks such as DDoS attacks, malware infections, or phishing attempts,

which could compromise sensitive data or disrupt operations.

6. Perform stakeholder analysis (RACI Matrix) to find out the key stakeholders who

can take Decisions and Who are the influencers

•Responsible (R): The person(s) who do the work to complete the task.

•Accountable (A): The person who is ultimately accountable for the task's completion

and has yes/no/veto power.

•Consulted (C): The person(s) who need to give input before the work can be done and

signed-off on.

•Informed (I): The person(s) who need to be kept informed about the progress and

completion of the task.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name & Role | Gathering | Analysis | Design | Development | Testing | UAT |
| Henry | R | I | I | I | I | I |
| Peter, Kevin & Ben (Stakeholder) | R | I | I | I | I | I |
| Pandu (financial head) | I | I | I | I | I | I |
| Dooku (Project Coordinator) | I | A | I | I | I | I |
| Karthik (Delivery Head) | C | C | C | C | C | C |
| Vandanam ( Project Head) | A | A | A | A | A | A |
| Juhi ( Senior Java Developer) | I | I | A | R | C | I |
| Teyson, Ms Lucie, Mr Tucker, Mr Bravo(Dev Team) | I | I | I | R | C | I |
| Mr Jason and Ms Alekya (Testing) | I | I | I | C | R | I |
| Mike (Network Admin) | I | I | I | I | I | I |
| John DB Admin | I | I | I | I | I | I |
| BA | R | R | C | I | I | A |

•Project Planning: Mr. Karthik (Delivery Head) is Accountable, Mr. Vandanam (Project

Manager) and Mr. Dooku (Project Coordinator) are Responsible, and others are Consulted or

Informed as appropriate.

•Budget Approval: Mr. Pandu (Financial Head) is Accountable, Mr. Karthik (Delivery Head) is

Responsible, and others are Consulted or Informed.

•Requirement Gathering: You (Business Analyst) are Responsible, Mr. Vandanam (Project

Manager) is Accountable, and others are Consulted or Informed.

•Design and Architecture: Mr. Vandanam (Project Manager) is Accountable, Ms. Juhi (Senior

Java Developer) is Responsible, and others are Consulted or Informed.

•Development: Ms. Juhi (Senior Java Developer) is Accountable, Java Developers (Teyson,

Lucie, Tucker, Bravo) are Responsible, and others are Consulted or Informed.

•Testing: Testers (Jason, Alekya) are Responsible and Accountable, and others are Consulted

or Informed.

•Deployment: Mr. Karthik (Delivery Head) is Accountable, Mr. Vandanam (Project Manager)

is Responsible, and others are Consulted or Informed.

•Maintenance: Mr. Vandanam (Project Manager) is Accountable, Mr. Mike (Network Admin)

and Mr. John (DB Admin) are Responsible, and others are Consulted or Informed.

7. Help Mr Karthik to prepare a business case document.

* A business case document is a comprehensive report that outlines the justification for initiating a new project or undertaking a significant change within an organization. It serves as a roadmap for decision-makers to evaluate the feasibility, benefits, costs, and risks associated with the proposed initiative.

**Field Name** **Value**

**Project Name** Online Agriculture Product Store

**Goal** To create an online product store

**Project Sponsor** Henry

**Project Manager** Vandanam

**Name of the Head** Karthik

**Business Strategy** To develop an online website/application

**Benefits** Makes it easy to buy seeds

Get genuine products at the doorstep

**Time Scale** 18 months

**Risks** Availability of resources

Technical issues during development

Application may not be user friendly

Question 8 :

SDLC which stands for Software development Life Cycle is a process use by software development teams to build a software. SDLC consists of several methodologies or approaches that can be used to develop software applications. These include Sequential, Iterative, Evolutionary and Agile.

1. Sequential: Sequential methodology, also known as the Waterfall model, is a linear approach where each phase of the software development process must be completed before moving on to the next phase. This methodology works well for projects where requirements are well-defined and there is a clear understanding of what the end product should look like. However, this approach may not be suitable for projects where there are evolving requirements or where changes need to be made during the development process.

2. Iterative: The iterative methodology involves multiple iterations or cycles of the SDLC process. In this approach, the development team creates a working prototype of the software product, tests it, and then makes changes based on feedback before moving on to the next iteration. This methodology is useful for projects where requirements are not well-defined or may evolve during the development process.

3. Evolutionary: The evolutionary methodology is similar to the iterative methodology in that it involves multiple iterations. However, in this approach, the initial product is not fully functional but evolves over time through a series of iterations. This methodology is best suited for projects where the requirements are not fully defined or may change frequently.

4. Agile: The Agile methodology is an iterative and incremental approach to software development that focuses on delivering working software in small increments or sprints. The Agile approach emphasizes customer collaboration, continuous feedback, and flexibility in response to changing requirements. This methodology is ideal for projects where requirements may change frequently and where there is a need for rapid delivery of working software.

Each methodology has its advantages and disadvantages, and the choice of methodology will depend on the specific needs of the project. It is essential to consider factors such as project requirements, project scope, team size, budget, and timeline before choosing the methodology.

9. They discussed models in SDLC like waterfall RUP Spiral and Scrum. You put forth your understanding on these models When the APT IT SOLUTIONS company got the project to make this online agriculture product store, there is a difference of opinion between a couple of SMEs and the project team regarding which methodology would be more suitable for this project. SMEs are stressing on using the V model and the project team is leaning more onto the side of waterfall model. As a business analyst, which methodology do you think would be better for this project?

As a business analyst I would consider the characteristics and requirements of the project to determine which methodology would be better suited: the V model or the waterfall model.

Considering the available information and requirements in the project, I would lean towards waterfall model. However, it is important that the final decision will be made based on every opinion and preferences of the SMEs.

10. Write down the differences between waterfall model and V model.

V model:

The V model is a software development methodology that emphasizes a sequential and structured approach to development. It is characterized by a corresponding testing phase for each development phase, forming a V-shaped structure. The requirements are gathered and documented at the beginning, followed by design, implementation, and testing phases. The testing phase includes both system testing and acceptance testing.

Waterfall Model:

The waterfall model is also a sequential and linear approach to software development. It follows a step-by-step progression through the phases of requirements gathering, design, implementation, testing, and deployment. Each phase is completed before moving on to the next, with little room for iteration or changes once a phase is completed.

11. As a BA, state your reason for choosing one model for this project.

As a business analyst, my recommendation would be to use the Waterfall model for this project.

The Waterfall model is a linear sequential approach where each phase of the software development process is completed before moving onto the next phase. This model is suitable for projects with clear and well-defined requirements, which is the case for the online agriculture product store project. The project has a clear objective of developing an e-commerce platform for farmers to buy agriculture products, and the requirements for the project have been shared by the stakeholders.

12. 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.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Week 1 | Week 10 | Week 19 | Week 30 | Week 39 | Week 48 | Week 56 | Week 64 | Week 75 | Week 79 |  |
| RG |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | RA |  |  |  |  |  |  |  |  |
|  |  |  |  | DESIGN |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | CODING |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | TESTING |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Resources | Week 1 | Week 10 | Week 19 | Week 30 | Week 39 | Week 48 | Week 56 | Week 64 | Week 75 | Week 79 |
| Project Manager | 1 |  |  |  |  |  |  |  |  |  |
| Business Analyst | 3 |  |  |  |  |  |  |  |  |  |
| Java Developer |  |  | 1 |  |  |  |  |  |  |  |
| Operations Head |  |  |  | 1 |  |  |  |  |  |  |
| Testers |  |  |  |  | 3 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Network Engineer |  |  |  |  | 1 |  |  |  |  |  |

13. Difference between Fixed Bid and billing projects

The Fixed Bid model is a pricing model used in software development projects, where a fixed price is agreed upon by the client and the vendor for the entire project scope. In this model, the vendor bears the risk of delivering the project within the agreed scope and timeline, and any deviation from the scope or timeline results in additional costs or penalties. The Fixed Bid model provides a clear understanding of the project cost and timeline upfront, and is suitable for well-defined projects with a clear scope and requirements.

On the other hand, the Billing Model is a pricing model based on the time and resources spent on the project. In this model, the vendor charges the client based on the number of hours worked and the hourly rate of each team member involved in the project. This model provides more flexibility to the client to make changes to the project scope and requirements, and the vendor is compensated for the time and effort spent on the project. However, the Billing Model may result in additional costs if the project takes longer than expected.

Testing Time Sheet Date Activity In-Time Out-Time Total Hrs

20/3/2024 Conducted functional testing with testers 10:00 16:00 6

21/3/2024 Conducted regression testing along with testers 10:00 17:00 7

22/3/2024 Analyzed test results and reported the issue to PM 10:00 18:00 8

25/3/2024 Developed test plan for upcoming release 10:00 18:00 8

UAT Time Sheet

Testing Time Sheet Date Activity In-Time Out-Time Total Hrs

26/3/2024 Prepared UAT test plan 10:00 16:00 6

27/3/2024 Prepared test cases 10:00 17:00 7

28/3/2024 Reported defects found during UAT 10:00 18:00 8

29/03/2024 Retest defects after troubleshooting by developers 10:00 18:00 8

2/4/2024 Taken sign-off from stakeholders on UAT completion 11:00 14:00 3

Deployment/Implementation Time Sheet

Date Activity In-

Testing Time Sheet Date Activity In-Time Out-Time Total Hrs

3/4/2024 Created execution plan 10:00 16:00 6

4/4/2024 Deployed application to test environment 10:00 17:00 7

5/4/2024 deployed application to real time environment 10:00 18:00 8

9/4/2024 Taken sign-off for successful project completion 10:00 14:00 2