

Capstone Project1– Part-1/3

Answer 1: BPM for Business Process Model for Online Agriculture Store–

- **Goal:** To bridge the gap between manufacturers and farmers by enabling direct communication through an online platform.
- **Inputs:**Details of fertilizers, seeds, and pesticides; data from companies and manufacturers; trained employees; availability of products.
- **Resources:** Warehouse, Software, Office space
- **Output:** An efficient web and mobile application for agricultural product procurement.
- **Activities:**
 - Collect product details from manufacturers.
 - Display these products to farmers.
 - Facilitate the buying process and ensure delivery to farmers' locations.
- **Values:** Accessibility from anywhere, a wide range of products, and overall customer satisfaction.

Answer 2: SWOT:

Strength: <ul style="list-style-type: none">• Have a solid budget.• Strong base of buyers.	Weakness: <ul style="list-style-type: none">• Relying too much on external manufacturers.• Challenges with inventory stocks.• Inventory and delivery management, especially to remote areas.
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<p>Opportunities:</p> <ul style="list-style-type: none"> • Expand into markets as a sole seller . • Broaden the range of agricultural products in remote areas. • Foster easy communication between farmers and manufacturers. 	<p>Threats:</p> <ul style="list-style-type: none"> • Shifts in buyer behaviour. • Connectivity issues in remote areas. • Economic downturns.
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Answer 3: Feasibility Study:

Technology: Internet connectivity, with database servers, payment gateways, APIs, and security measures in place.

Hardware: Warehouse needs, product storage, a backup system, and network infrastructure.

Software: Online website, a shopping cart system, a content management system, and payment gateway servers.

Resources: Project management team, Business analyst, Software developers, testers

Budget: Software Development cost, Warehouse cost, hardware cost etc

Time Frame: Depends on the resources we have and the number of features we're aiming for.

Answer 4: GAP Analysis:

Current state:

- Struggling to access the market for needed products.
- Relying on external vendors for supply, which means limited control over product quantities and variety.
- High operating costs due to investment in tech and infrastructure.

Desired State:

- A smooth online platform that connects remote buyers and manufacturers seamlessly.
- Diversifying into more product categories.
- Ongoing investments in tech to enhance the overall customer experience.

Answer 5: Risk Analysis:

1. Internal risks:

- Spending a lot on tech and marketing, which boosts the operating expenses.
- Technical glitches and system downtime can really mess up the customer experience.

2. External risks:

- Changes in government rules and policies could impact our e-commerce project.
- Facing stiff competition from other online markets.

3. BA Risks:

- Domain knowledge
- Lack of expertise in the field.
- Changes in requirements.
- Incomplete requirement

4. Project based risks:

- Scope Risks
- Stakeholders/Manufacturer risks

Answer 6. Stakeholder Analysis (RACIMatrix):

Stakeholder Analysis			
RACI	Name	Designation	Details
Responsible	Mr. Karthik	Delivery Head	karthik@alpitsolution.com
	Ms. Sangeeta	BA	sangeeta@alpsolution.com
	Ms. Juhi	Senior Java Developer	juhi@alpitsolution.com

	Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo	Java Developers	teyson@alpitsolution.com, lucie@alpitsolution.com, tucker@alpitsolution.com, bravo@alpitsolution.com
	Mr. Jason, Ms. Alekya	Testers	jason@alpitsolution.com
Accountable	Mr. Karthik	Delivery Head	karthik@alpitsolution.com
	Mr. Vandan	Project Manager	vandan@alpitsolution.com
Consulted	Mr. Henry	Businessman, Committee Member	henry@.com
	Mr. Pandu	Financial Head, Committee Member	pandu@soony.com
	Mr. Dooku	Project Coordinator, Committee Member	dooku@soony.com
	Mr. Karthik	Delivery Head	karthik@alpitsolution.com
	Mr. Vandan	Project Manager	vandan@alpitsolution.com
	Ms. Sangeeta	BA	sangeeta@alpsolution.com
	Ms. Juhi	Senior Java Developer	juhi@alpitsolution.com
	Mr. Jason, Ms. Alekya	Testers	jason@alpitsolution.com
Informed	Mr. Henry	Businessman, Committee Member	henry@.com
	Mr. Pandu	Financial Head, Committee Member	pandu@soony.com
	Mr. Dooku	Project Coordinator, Committee Member	dooku@soony.com
	Mr. Karthik	Delivery Head	karthik@alpitsolution.com
	Mr. Vandan	Project Manager	vandan@alpitsolution.com
	Business Analyst	BA	sangeeta@alpsolution.com
	Ms. Juhi	Senior Java Developer	juhi@alpitsolution.com
	Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo	Java Developers	teyson@alpitsolution.com, lucie@alpitsolution.com, tucker@alpitsolution.com, bravo@alpitsolution.com
	Mr. Jason, Ms. Alekya	Testers	jason@alpitsolution.com

Answer 7: Business Case Document-

Why is the project created: Henry decided to make an online agriculture product store to facilitate remote area farmers to buy agriculture products. Through this Online Web / mobile Application, Farmers and Companies (Fertilizers, seeds and pesticides manufacturing Companies) can communicate directly with each other

Current Problems:

- Procuring agricultural products(fertilizers , pesticides, seeds) for farmers.which are very important for farm.
- Connectivity issues in remote areas.
- Inventory and delivery management, especially to remote areas.

Problems that can be solved:

- Broaden the range of agricultural products in remote areas.
- Foster easy communication between farmers and manufacturers.

Resources Required:

Sponsor, Delivery Head, Business Analyst, Financial Manager, Project Manager, Developers., Testers, Network Admin, DB Admin, Human Resources

Time Frame required is 18months

Stakeholders- Peter, Kevin, Ben

Answer 8: Four SDLC Methodologies-

SDLC Methodologies is a structured process or framework that defines the process of developing a software through a series of stages.

Below are the different methodologies of SDLC Methodologies:

1.Sequential – Waterfall- A linear and sequential approach where each phase must be completed before the next one begins. It's ideal for projects with well-defined requirements that are unlikely to change. Each phase is to complete before the next phase begin. The following 5 common phases: initiation, planning, execution, monitoring, and closure.

2. **Iterative Model:** RUP: The RUP is based on a set of building blocks, or content elements, describing what is to be produced, the necessary skills required and the step by step explanation describing how specific development goals are to be achieved.
3. **Spiral Model-** The Spiral Model is a risk-driven approach to software development that combines elements of both iterative and Waterfall models. Each loop (or iteration) in the spiral signifies the process of planning, risk analysis, engineering, and evaluation, suitable for large and complex projects with high risk.
4. **Agile:** An iterative and incremental approach that promotes flexible response to change. Development is carried out in small, time-boxed iterations, with continuous stakeholder feedback and involvement.

Answer 9: Waterfall RUP Spiral and Scrum Models–

Software Development Life Cycle (SDLC) models are frameworks that guide the development process of software applications from initiation to deployment. Various SDLC models exist, each with its approach to the phases of development.

1. **Waterfall :** The Waterfall model is one of the oldest and most straightforward approaches to software development. It follows a linear and sequential approach where each phase must be completed before moving on to the next. The phases include Requirements, Design, Development, Testing, Deployment, and Maintenance. This model is highly structured, making it easy to understand and use. It is suitable for projects with stable and well-defined requirements
2. **Iterative Model:** RUP: The RUP is based on a set of building blocks, or content elements, describing what is to be produced, the necessary skills required and the step by step explanation describing how specific development goals are to be achieved.
3. **Evolutionary-Spiral** - The Spiral model combines iterative development with the systematic aspects of the Waterfall model. It The spiral model gives more emphasized placed on risk analysis. It is inherently risk-driven, meaning that risks are continuously assessed and addressed throughout the development life cycle. The spiral model has the following phases-Planning, Risk Analysis, Engineering, Testing and Evaluation.
4. **V Model-** An extension of the Waterfall model that emphasizes verification and validation. Every development phase is associated with a testing phase, ensuring early detection and correction of defects.
5. **Agile-Scrum-**Scrum is an iterative development methodology used to manage software projects. Scrum is an agile project management framework that helps teams' structure and manage their work through a set of values, principles, and practices.

As a business analyst for the APT IT Solutions project, Given the specific context of creating an online agriculture product store, I would recommend the Waterfall-Model. This is suitable for a project with clear objectives, a fixed budget, and a set timeline. The Waterfall Model ensures that each phase (requirement gathering, design, development, testing, deployment) is completed before moving on to the next, reducing the risk of scope creep and maintaining

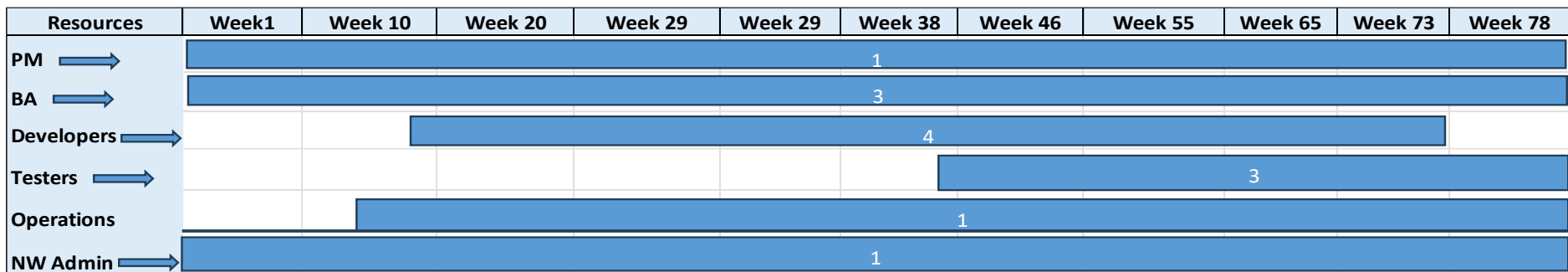
Answer 10: Waterfall Vs V-Model

Aspect	Waterfall Model	V-Model
Development Process	Sequential, linear process with distinct phases	Sequential with verification and validation phases
Testing	Testing is a separate phase after development	Testing is integrated at every development stage
Flexibility	Less flexible, difficult to make changes once phase is completed	More flexible, allows for continuous testing and changes
Error Detection	Errors detected late in the development process	Errors detected early due to continuous testing
Documentation	Emphasizes complete documentation for each phase	Emphasizes thorough documentation and test plans at each stage
Best for Projects	With well-defined requirements that won't change	Where quality is critical and requirements might evolve

Answer 11. Choose One model for this project

As a BA, I would recommend using the Waterfall Model for this project due to its structured approach and defined stages. This is suitable for a project with clear objectives, a fixed budget, and a set timeline. The Waterfall Model ensures that each phase (requirement gathering, design, development, testing, deployment) is completed before moving on to the next, reducing the risk of scope creep and maintaining

Answer 12: GanttChart-



Answer 13: Fixed Bid Vs Billing:

Aspect	Fixed Bid Projects	Billing Projects (Time and Material)
Cost Structure	Predetermined fixed price	Based on actual time spent and materials used
Scope Definition	Clearly defined at the outset	Flexible and may evolve over time
Change Flexibility	Limited flexibility for changes	High flexibility to accommodate changes
Risk Allocation	Vendor assumes most risk	Risk is shared between client and vendor
Ideal For	Projects with well-defined requirements	Projects where scope may change or is not fully known
Client Involvement	Less involvement required once scope is set	Continuous involvement to manage changes
Timeline	Fixed and agreed upon upfront	More adaptable to timeline adjustments

Answer 14: Timesheets of a BA in various stages of SDLC:

Requirement Gathering Stage					
S.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Identify the stakeholders	Meetings to list down the stakeholders	10:00AM	11:00AM	1 hour
2	Client interaction	Zoom Call to update the client on MOM	11:00AM	1:00PM	2 hours
3	Prepare design specifications	SME discussion	2:00PM	3:00PM	1 hour
4	Refining designing documents	Working on the template	3:30PM	4:30PM	1 hour
5	Team Meeting	Discussing on the day tasks/inputs	5:00PM	7:00PM	2 hours
					7 hours

Requirement Analysis Stage					
Sl.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Conduct Stakeholder Interviews	Meetings to gather detailed requirements	9:00AM	10:30AM	1.5 hour
2	Create Requirement Document	Documenting gathered requirements	11:00AM	1:00PM	2 hours
3	Review Requirements	Cross-checking with stakeholders	2:00PM	3:00PM	1 hour
4	Update Requirement Documents	Refining the requirement details	3:30PM	4:30PM	1 hour
5	Team Meeting	Discussing feedback and next steps	5:00PM	7:00PM	2 hours
					7.5 hours

Design Stage					
Sl.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Design Mockups	Creating initial design drafts	9:00AM	10:30AM	2 hours
2	Client Review	Presenting design mockups to client	11:30AM	12:30PM	1 hour
3	Design Adjustments	Refining designs based on feedback	1:00PM	3:00PM	2 hours
4	Design Document Creation	Documenting the final design	3:30PM	4:30PM	1 hour
5	Team Collaboration	Discussing final design with team	5:00PM	7:00PM	2 hours
					8 hours

Development Stage					
Sl.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Discussion with Developers	Meeting with development team	9:00AM	10:00AM	1 hour
2	Review Development Plan	Going over the detailed plan	10:30AM	11:30AM	1 hour
3	Monitor Progress	Daily stand-up meetings with developers	12:00PM	1:00PM	1 hour
4	Issue Resolution	Working on any blockers or issues	2:00PM	4:00PM	2 hours
5	Update Development Docs	Documenting changes and progress	4:30PM	6:30PM	2 hours
					8 hours

Testing Stage					
Sl.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Develop Test Cases	Creating detailed test scenarios	9:00AM	10:30AM	1.5 hour
2	Conduct Testing	Executing test cases	11:00AM	1:00PM	2 hours
3	Document Results	Recording test outcomes	1:30PM	2:30PM	1 hour
4	Review Bugs	Identifying and categorizing bugs	3:00PM	4:00PM	1 hours
5	Update Test Documents	Updating test documents and retesting	4:30PM	6:30PM	2 hours
					7.5 hours

User Acceptance Testing (UAT) Stage					
Sl.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Prepare UAT Plan	Creating the UAT plan	9:00AM	10:30AM	1.5 hour
2	Conduct UAT	Executing UAT cases	11:00AM	1:00PM	2 hours
3	Collect Feedback	Gathering feedback from users	1:30PM	2:30PM	1 hour
4	Address UAT Issues	Fixing issues found during UAT	3:00PM	4:30PM	1.5 hours
5	Final UAT Signoff	Obtaining user signoff on UAT	5:00PM	7:00PM	2 hours
					7.5 hours

Deployment Stage					
Sl.No.	Tasks	Actionable items	Start Time	End Time	Duration
1	Deployment planning	Finalizing deployment strategy	9:00AM	10:00AM	1 hour
2	Execute deployment	Deploying to production	10:30 AM	12:30PM	2 hours
3	Post-deployment checks	Verifying deployment success	1:30PM	3:30PM	2 hours
4	Document deployment	Recording deployment details	3:30PM	5:30PM	2 hours
					7 hours